NEW-YORK FARMER,

AND

AMERICAN GARDENER'S MAGAZINE.

"Agriculture at once the cause and evidence of civilization."

VOL. X.] PUBLISHED MONTHLY, AT 30 WALL-ST., AT THREE DOLLARS A-YEAR, IN ADVANCE. [No. 10.

D. K. MINOR, and GEO. C. SCHAEFFER, } EDITORS AND PROPRIETORS. FOR JULY 12, 1837. NEW SERIES—VOL. V.

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NEW-YORK FARMER.

JULY 12, 1837.

USEFUL IF TRUE.—"We every day hear complaints about watery potatoes. Put into the pot a piece of lime as large as a hen's egg; and how watery soever the potatoes may have been, when the water is poured off, the potatoes will be perfectly dry and mealy. Some persons use salt, which only hardens potatoes." So says one of the foreign journals, and we advise those who are compelled to use watery potatoes to try the lime. There is we think some philosophy in the recommendation, as the alkali of the time may correct the tendency to acidity always manifest in poor potatoes. By the way experience teaches us that good ripe *pink-eyes*, well secured in the ground through the winter, and kept dry till wanted, will keep till July or August, without becoming watery. —[Genesee Farmer.]

BEE MOTH.—A friend informs us, he has discovered by experiment, that dry comb laid about hives, forms a trap for the bee-moth, by attracting the miller, which deposites its eggs in the comb, where they are easily destroyed. A piece of comb which he placed for the purpose, was completely filled with the moths.

For the New York Farmer.

TROPICAL FIBROUS PLANTS.

Continued from p. 211

10 o'clock A. M., 16th, 1837.

I have passed a very restless night yet will endeavor to proceed.

We now turn to the peculiarly fibrous leaved Agaves, known in Yucatan under the common generic name of Yucatan, and in my writings under the botanical appellation of Agave Sisabana.

I have often stated that there are two distinct *cultivated* varieties in Yucatan, designated by the Indian names of Yashqui and Sacqui. To show at one view a great specific difference between the Henequens and the Magueys, or between the A. sisalana, and the A. americana, suffice it to repeat that the Yashqui variety of Henequen *is entirely destitute of spines on its edges*, while all the varieties of Maguey *have many spines projecting from their edges*. To repeat in other words, the leaves of Yashqui have *smooth* edges, the leaves of the Maguey have *spiny* edges; although both have a thorn at the extremity of their leaves.

The difference between the other variety of the Henequen, the Sacqui, compared with some varieties of the Maguey, is not so easy to describe in words, because the Sacqui has also spines on its edges. I have not with me the book in which I have noted down the minutiæ, but I can convey a general idea of one difference very notable to the sight between this and all other varieties of Henequen compared with the varieties of the Maguey, viz.: the relative *narrowness of the leaves*. Cut a leaf of any variety of the fibres producing Agaves, and cut another leaf of any of the drink producing Agaves, but let each leaf be of the same length. Let the two leaves lie together, and that leaf which is pronounced to be notably *broader* than the other belongs to the Maguey. So striking is this difference, that I have before me a winter bleached leaf, of both the Sacqui and Maguey, each 22 inches long, and while the width at the broadest part of the Sacqui is scarcely 2¼ inches, the width of the Maguey is fully 5 inches, or double the breadth. It is true that the same disproportion will not exist in all leaves at all lengths, yet in all the difference in breadth is sufficiently notable to strike the most careless observer. I dwell on these facts at the risque of being tiresome, because I am convinced that ere long they will be deemed of high importance by all "intelligent friends of the Union." Mark then further the fact, that both the Sacqui and Yashqui varieties of the Henequen of Yucatan or Agave Sisalana, are still existing in the garden of this model farm.

8 o'clock, P. M.

It is in vain to struggle against sickness! My exertions are protracting my convalescence. I will nevertheless endeavor to finish this page. To show you how vague and erroneous are the ideas concerning the Agaves, take up a Spanish Dictionary and look at the definition of the words Pita and Cabuya. You will find that both are used as the names of plants, and the names of fibres extracted from the leaves of those plants, and yet both are included under the Botanical name of Agave Americana. Under the term Pita you learn that the leaves are eaten by cattle. Under the title Cabuya you are told that the foliaceous fibres are made into ropes. Indeed so common is the fabrication of these fibres in some parts of Spain that the manufacturer has acquired the special name of *Cabuyero*—i. e. manufacture of the foliaceous fibre called Cabuya. As the Spaniards manufacture the tough grass called by them *Esparto*, (Spartina tenacessima) the manu-

facturer himself is called *Espartero*, the wrought fabrics *Esparteria*. The fact of the invention of the names is the best evidence of the common existence of the things, and processes they represent. So the terms Cabuyero and Cabuyeria imply that in Spain foliaceous fibre is well known. The only rational influence to be drawn from these facts is, that in Spain various species of Agave are acclimated—that they not only have the juice producing Magueys or varieties of Agave Americana, but that they also have the fibre producing Henequen or varieties of the Agave Sisalana.

If then in Spain where the Agaves are so numerous, and where even fibrous leaved species furnish products for common manufacture, the ignorance of the books is so manifest, it is not so astonishing that the writers of France should have imperfect notions on the subject. In the latest Agricultural work, the Maison rustique, published in 1836, and designed to be superior to the Agricultural Encyclopedia of London, there is merely a short article on the Agave Americana, by A. Poiteau, in which he follows the errors of his predecessors, but which we must suppose contains a compend of their actual knowledge on this topic. I have copied it and intended to send it with this communication, but as I am too exhausted to accompany the requisite comments, I must break off until health permits me to address you again from some station during my travels. My present intention is to proceed as soon as I am able to New Orleans, Havanna, Key West, Cape Florida, Charleston, &c., to New-York.

Respectfully,

H. PERRINE.

DR. H. PERRINE.—We have again the pleasure of receiving a letter, from Dr. Perrine; it is accompanied by a circular and resolutions of the Agricultural Society, and Legislature of Louisiana, approbatory of his untiring efforts, in the cause to which he has for many years devoted hir self, which we lay before our readers, in the hope that we shall thereby aid him in his efforts.

We ask for the subject, the favorable consideration of the members of the ensuing Congress.

To the Editors of the New-York Farmer.

KEY WEST, TROPICAL FLORIDA, 28th June, 1837.

DEAR SIR.—I left New-Orleans on the 5th inst., reached Havana on the 11th, left that Paradisiacal site on the 5th, and arrived at this calumniated Island, on the 17th, with all the seeds and vegetable products brought by me, from Campeche. I intended to proceed directly to the vicinity of Cape Florida, in order to sow and plant a preparatory nursery; but the news of the recent treachery of the savage Seminoles, detained me here, and their hostile appearance all along the coast, from Cape Sable to Cape Canaveral, renders it impossible to effect a location, so long as our government continues to leave Tropical Florida in an entirely unprotected condition. The sub-soil of this Island, appears to be composed of solid limestones, and its soil of calcareous powder, colored by vegetable mould. Clay and sand, even for masonry, I am told, has to be imported, and yet the surface of the Key is covered with a vigorous growth of woods, embracing various valuable forest trees. The celebrated Habi, or Campeachy Teak—a specie of Piscidia, valued more highly in Yucatan, for the construction of vessels, than even the live Oak of the United States, was one of the first which agreeably excited my surprise. But I will enter into details at another opportunity. The principal object of my present address is to transmit you a copy of a circular from the President of the Agricultural Society, to the Agricultural Societies of such Southern States as have one organized, and to the Governors of the remainder, which I beg you will publish in your next number. During a correspondence of several years from Campeche, and during my recent visit of several months to New-Orleans, the Ex-Governor Roman, has had an ample opportunity of appreciating the value of my suggestions, and of my services, and I respectfully hope that all patriotic vegeculturalists, will confide in his testimony, and imitate his example, by contributing their sympathy and their assistance towards an enterprise, to which, unaided and alone, I have sacrificed the last ten years of my life.

Very respectfully, your ob't serv't,

HENRY PERRINE.

TROPICAL PLANTS.

We are pleased to find that Dr. PERRINE, late Consul to Campeche, has found able advocates of his praiseworthy efforts to acclimate tropical plants in Florida, in the Legislature and Agricultural Society of Louisiana. The following circular, to other Agricultural Societies, and resolutions passed by the Legislature, should meet with a hearty concurrence in every State in the Union.—[Ed. N. Y. Farmer.]

NEW-ORLEANS, June 1, 1837.

Sir—I respectfully invite your attention to the following resolution of the Agricultural Society, over which I have the honor to preside, and also to the appended resolution of the Legislature of this State, which were presented by a director of the Society.—The preamble to the resolutions of the Legislature expresses our motives for thus endeavoring to facilitate the persevering enterprise of Dr. H. Perrine; and I may add, that my personal knowledge of himself and services, induces me to hope that the Agricultural Society and the Legislature of your State may render him some assistance, at least towards the passage of the Bill alluded to, during the ensuing season of Congress.

Very respectfully,

Your obt. servant,

A. B. ROMAN,

Prest. Ag. Soc. Louisiana.

"Resolved. That the President of the Board be, and he is hereby authorised, to make such arrangements, as he may deem proper, with Mr. Perrine, for the publication, at the expense of the Society, of such part of his writings as may promote the interests of Agriculture; and to procure from Havana, and other parts, through Mr. Perrien, such plants as in his opinion may be acclimated here."

The foregoing is a true copy from the journal of proceedings of the Agricultural Society of Louisiana, at its meeting of the 7th of March, 1837. New Orleans 27th of May, 1837.

(Signed) EUG. ROUSSEAU,

Sec. Ag. Soc., Louisiana.

(No 96.) Resolution. Whereas, in obedience to the Treasury Circular, of the 6th Sept. 1827, Dr. H. Perrine, late American Consul at Campeche, has been distinguished by his persevering exertions to introduce tropical plants in the United States; and whereas, the Committee of Agriculture in Congress, on the 22d of April, 1832, did report a Bill to encourage the introduction and promote the culture of tropical plants in the United States, by conveying conditionally, to said Perrine, and his associates, a Township of Land in Southern Florida; and whereas the gradual acclimation of tropical plants in all the Southern and Southwestern States, may be better accomplished by their immediate domestication in the tropical district of Florida.

SEC. 1. Be it therefore resolved, by the Senate and House of Representatives, of the State of Louisiana, in General Assembly convened, that our Senators be instructed, and our representatives requested, to procure the passage of said Bill into a Law, under such conditions as may best comport with the public good.

SEC. 2. And be it further resolved, that the Governer be instructed to forward a copy of this resolution, to each of our Senators and Representatives in Congress.

(Signed) ALCEE LABRANCHE,

Speaker of the House of Representatives.

(Signed) C. DERBIGNEY,

President of the Senate,

Approved, March 11th, 1837.

(Signed) E. D. WHITE.

Governor of the State of Louisiana.

M, is truly welcome. If our readers generally would do likewise, they would benefit each other more than they are aware of.

For the New-York Farmer

MANAGEMENT OF SHEEP.

No. IV.

Messrs. Editors—In pursuance of the intimation in my last communication, I will now proceed to mention the "sins of omission and commission" relative to *washing* and *shearing* of sheep.

To correct, however, the slovenly mode practised by farmers, in general, in reference to both, is indeed a hopless task;—to prove that it is downright dishonesty to sell wool to which is attached from 25 to 50 per cent, of filth and dirt, of which, the manufacturer is ignorant until discovered in the process of using, is easy enough. But moralizing in these corrupt days is almost useless. I shall attempt to prove, however, that in these matters, honesty and interest go hand in hand, he that *will* be honest will sooner or later find his reward.

It is common for farmers to prepare a pool by daming some convenient brook, which, doubtless, in many instances affords pure water, but nine times in ten is little better than a hog mire. The sheep are then soused in, held for a minute or two, the wool squeezed, and then let go, and pronounced *well washed*. If a by-stander questions it, or the owner feels some qualms of conscience, both are quieted by stating the fact, "that the fleece will weigh heavier if it is not *quite* so clean, and the dirt will bring as much as the wool." This is thought a "cunning thing" to *shave* the speculator or manufacturer.

When the time of shearing arrives, or rather, is proceeding, these same *honest good meaning sort of men* take special care, in order that the fleece shall not fall short of weight, to scrape up every thing, consisting of wool not the sixteenth of an inch long, dirt locks, dung locks, bur locks &c., which is carefully put *inside* and the fleece rolled in "first rate style." All this trash is of course, excluded from the buyer, whoever he is, and from the external appearance, is deemed in good order and condition.—But the manufacturer, at his cost, discovers not only the fair article, but much, that is worse than nothingness within.

If these *honest good sort of men*, who are so *cunning* as *thus to prepare* their wool for market, will but take the trouble to cleanse a fleece, as the manufacturer is obliged to do before it is put in a process of manufacture, he will readily ascertain what a gross deception it is—the result will be, that a fleece *prepared* as above described with its *beautiful superfluities*, and weighing 4 lbs., would be reduced by the cleansing operation to 2½ to 2¾ lbs.

Your readers need not suspect this picture overdrawn—it is true to the letter, and for confirmation let them appeal to the manufacturer.

Yes, my brethren wool growers, the picture represents faithfully the practice of too many of us. Is it honest and fair?—is this the way our gains are to be augmented? is this a principle to instil into our sons, and our example proper for them to follow?—For my part I will raise my voice, and condemn both principle and example as abominable dishonesty. As well might we fill our fleeces with stones, and sell them for wool or sell our wheat and deliver chaff.

But this neglect Messrs. Editors in regard to wool is only an item among the many, which farmers are guilty of;—it is of the same stamp and character with others, which go to make up the opinion which is formed of us abroad as well as at home; viz, that, as a body, the farmers of this country are more neglectful, careless and slovenly, in their agricultural pursuits, than any others on the face of the civilized portion of the earth.

The above remarks are sweeping, but will apply, generally, with full force to farmers in this region. My knowledge is acquired not from what my ears have heard, but from what my eyes have seen.

But I am happy to state, that in the New-England States these "sins of omission and commission" are not so generally practiced. And well it is, that there are a "redeeming few" who put their wool in such order that they are not ashamed, when it is offered for sale, that the light should shine *inside* as well as *out*. If honesty be the impelling motive for doing the *clean thing*, so much the more redounds to their praise: if it be interest which dictates, why—it is perhaps as well.

At the Eastward it is common, with many of the wool growers to make use of vats for washing their sheep. This mode I have adopted. The size of my vat is ten feet in length, and about six feet in breadth. About the sides of the vat are temporary platforms erected for the washers to stand upon when washing. The water is conducted by means of two troughs or spouts, and the fall is about four feet. Having two spouts, of course, the washing of two sheep can be carried on at the same time—during which, two others are put in for the purpose of soaking. The object of soaking the wool is to loosen the dirt:—by so doing, when the sheep are transfered under the spout, it seperates more readily from the wool.

The advantages of washing in a vat, are the following—a man can stand beside a vat, and wash *all* day—whereas, if he is up to his waist in a pool, two hours is as long as he can endure the cold.

The water falling some three or four feet, removes the dirt quicker, by far, than it can be done by squeezing the wool, as is common:—and moreover, the water is all the while pure and clean:—in a pool it is always rily. Two active men in this way, will wash 400 sheep in a day.

My vat is made of two inch plank, well secured at each end by gripes, which are of oak timber, and the entire cost, including platforms, did not exceed seven dollars.

I have uniformly endeavored to put my wool, in every respect, in the best order, as regards cleanliness. I have been laughed at *by honest well-meaning sort of men*, for being thus particular. But I have, through life, adopted the proverb, that "honesty is the best policy," and, also, believing that some time or other, purchasers of my wool, would discriminate between *it*, and *such* as is *prepared* in the manner already described in this communication.

My wool has been purchased by the Messrs. Lawrence, of Boston, for several years, than whom, most of your readers are well aware, no men stand higher in our country for business, talents, and integrity. I will here insert an extract from two of their letters, relative to the condition of my wool. "In fixing prices, we have allowed you five cents per pound, more than ours cost us this season, for the reason, that yours is in much better condition than is usual." And again in reference to the clip of last year. "Our sorts will turn out from two to three cents per pound less than we have allowed for yours, on purchases of over 300,000 pounds, but the condition of yours was very good," &c.

Want of room, Messrs. Editors, will compel me here to leave the subject. My efforts, uniformly, to put my wool in the best condition, I am satisfied, have been amply rewarded. I have also satisfied myself, that honesty and true interest go hand in hand. I hope your readers, who are wool growers, are satisfied of the truth of this position, will do likewise, and find the reward.

I intended, in this communication, to have exposed the slovenly practices of farmers, in reference to shearing of sheep, but shall defer it to another time.

M.

LANSING, TOMPKINS CO. N. Y.

CITY POLICE—NIGHT SOIL MANURE, &c.

We continue, in this number, the article from the Farmers' Register, on City Police; and devote much space to the subject, deeming it one of great importance; first, in point of *cleanliness* and *comfort* in large cities; secondly, as a means of largely increasing the productiveness of the soil, in the vicinity of large cities, and of course of increasing quantities, and reducing prices, of vegetables, and thirdly, it is very important to the cultivator of the soil, who, though he may sell at less prices, is sure to realize larger profits on his labor, from the increased quantities.

The articles from the London Farmers' Magazine and British Husbandry, give direct and important *comparative* results; and they may, we believe, be relied on.

We ask the attention of our readers to the subject.

FRENCH METHOD OF PREPARING POUDRETTE AND URATE FOR MANURE.

To the Pennsylvania Agricultural Society.

Concluded.

"The attention of the Philadelphia Board of Health, has been earnestly directed towards discovering some mode of disposing of the contents of privies, which would remove from the precincts of our city, where the deposites are made, a nuisance at present of a very formidable character, and which must necessarily increase. In pursuance of this object, the board has concluded, that an effectual remedy for the evil is only to be sought in the conversion of the offensive substance into *inodorus manures*, after the methods now successfully practised in many parts of Europe, and especially in the cities of Paris and London.

"The principle by which this object is effected, is simple, and consists in the drying, or desiccation of the urinary and fœcal matters, either, apart or together, by the addition of certain absorbent substances, such as plaister, lime, chalk, ashes, &c. It is probable that the ashes of the Lehigh and Schuylkill coal may be thus usefully disposed of. The manure prepared from the fœcal or more solid contents of privies, has long been known, and highly esteemed by the gardeners and agriculturalists of France, under the name of *poudrette*. That prepared from the urinous portion is comparatively of modern invention, and is called *urate*.

"Aware that such a plan is not to be carried into effect under the special direction of either your society or their own body, the board lays the subject before you, in the hope that its advantages will be properly investigated and made known, so as to lead to useful results; for surely, nothing can be more worthy of general and special encouragement, than a plan not only calculated to promote the health and comfort of our large community, but to render essential assistance to the most important of the useful arts, insuring at the same time liberal profits to those actually engaged in its execution.

"That your society may be placed in possession of more particular information relative to the subject under consideration, the board would refer you to numerous highly favorable reports and interesting proceedings of the most respectable associations established in Europe for the encouragement of agricultural and useful arts, among which we would especially call your attention to those of the French "Royal and Central Agricultural Society," and the "Society for the encouragement of National Industry," during the years 1818–19–20.

"The following translation of a French document, furnishes an accurate detail of the process by which the *urate* is manufactured, and throws much important light upon the subject generally:

"Certificate granted upon the application for a brevet [patent] of invention, to M. Donat, (Joseph Etienne-Victor-Gabriel,) residing at Paris, department of the Seine.

"The Ministerial Secretary of the State, for the department of the interior, considering the Memoir of M. Donat, proprietory, residing in Paris, Rue des Bons-Enfans, No. 28, in which he states his desire to enjoy the proper rights secured by the law of the 7th of January, 1791, to the authors of inventions and discoveries in all kinds of industry, and to obtain in consequence, a brevet of invention for fifteen years, for the sudden drying of the urinary portion, and manipulation of the contents of privies, within the twenty-four hours succeeding their removal; all by particular means and processes, of which he declares himself the author, as it appears from the verbal process addressed at the time, to the depot of documents attached to the secretaryship of the department of the Seine, the 19th of January, 1819.

"Considering the designs of the apparatus, and the descriptive memoir of which the following is a copy.

"I have contrived a plan which affords me the means of extracting from urinary and fœcal matters, a manure very superior to those hitherto known. Desirous of securing to myself the exclusive enjoyment of my invention, I have made application to the prefecture, department of the Seine, conformably to the laws of the 7th of January and 25th of May, 1791, for a brevet of 15 years, for the complete and immediate desiccation of fœcal and urinary matters together, or separately, by means of absorbents which I add, such as lime, plaister, chalk, marl, ashes either natural or mineral, such as are taken from the different ash mines. Substances having calcareous bases may be calcined for the absorption of a greater quantity of liquid, at least when the high price of the combustible, or the low price of the absorbent, do not offer greater advantages in using it directly from the quarry.

"This variety of absorbent substances, assures to every country the means of manufacturing a very abundant and active manure with human dejections. The product of my operations is inodorous, for two reasons: The first is, that when urine is employed, it gives out no odor after the absorption of its moisture: The second is, when the fœcal matters are sufficiently mixed with the absorbent, I bury them at least 18 inches deep, to prevent the disengagement of the odor during the fermentation necessary to the good quality of the manure.

"I give to the manure made with pure urine and one of the aforesaid substances, the name of *urate*. I believe that this composition, mixed or combined with that resulting from the combination of fœcal matters with a certain quantity of one of the aforesaid absorbent matters, produces a manure of great activity. The only difficult point is, to ascertain the proper proportions for the admixture.

"For the manufacture of the urate on a large scale, it is necessary to construct at least six basins, in form of a watch glass inverted. They should hold about 12 hectolitres, (about 300 gallons,) of which there will be six of urine and six of the absorbent matter of one of the kinds formerly designated, freshly calcined.

"The cask or vessel holding the urine, is to be so placed that it will empty itself through its bung into the basin. During this operation, one workman is employed in pouring in the plaister, another in mixing it in the basin with a rake or scraper.

"When the mixture is finished the operators pass to another, and so on to the sixth. Then the first is emptied for the purpose of commencing operations anew. The mixture is finished by further drying in the air.

"At the end of the day, the quantity of urate which has been made since morning, is to be broken down by means of a cast iron cylinder rolled over it; after which it is sifted, (*passee a la double claie.*) and then immediately stored or packed up, to prevent the absorption of moisture.

"By this combination, the urine being dried by its union with the absorbent matter, which is itself a manure, unites all the vegetative powers of its two compouent parts, and will constitute the most productive of all manures, in consequence of the very small quantity that is necessary to employ to procure the best results.

"I have designated six substances as being proper to absorb the superabundant water of urine, and I have only mentioned them without pointing out any particular one, as I thought that no country is without some one of them. But in case I am mistaken in this opinion, very great advantages may still be derived from urines, by mixing them with burnt earth, (that of heath soil is to be preferred,) or with natural ashes (*cendes naturelles.*) I only estimate the value of this mixture as a means of obtaining all the salts of urine in a solid state, which will facilitate its transportation and employment in agriculture.

"The ancients considered urine as the most powerful of manures. This is not therefore the end of my invention, which consists alone in its sudden desiccation and solidification, and the draining or drying up of these infectious depositories of the substance to be met with in the environs of large cities, where they furnish inexhaustible sources of unhealthy exhalations.

"I leave it to the learned societies to express their judgment upon the qualities of the urate, and restrict myself to the applica-

ion for a brevet of invention, for a method of preparing it immediately, so as to destroy at the same time the odor of the urine.

(Signed) DONAT.

"*Paris, January 19th*, 1819."

["Here follows the certificate granting the brevet or patent to M. Donat, for 15 years, signed by the Ministerial Secretary of the interior department, Count Decazes.]

"Signed for and on behalf of the board of health.

SAMUEL J. ROBBINS.
President.

Attest,
THOS. A. RITCHIE, Sec.
Philadelphia, January 16th, 1820."

However beneficial may be this plan both for cleansing a city and for forming rich manure, it is evident that the process is not conducted upon uniform, and rarely upon correct principles—which I consider are only conformed to when the absorping matter used in some form of *mild* calcareous earth. By calcining this material, as the inventor recommends, a destructive, instead of a preserving ingredient is formed—an ingredient which never should be used to mix with fœcal or other animal matter, if the value of the product, as manure, is of any account. Far better than this French method is that which has been in use time out of mind among the Chinese—a people, who however unenlightened in science, are in advance of most other nations in the means for preserving and increasing the fertility of the earth. Travellers have informed us, that in that country, human excrements are mixed with clay marl (doubtless rich in calcareous earth.) The mixture is made up in the form of cakes, which after being dried, are free from all offensive odor, and indeed give to the senses no indication of their composition; and they are exposed in quantity in the streets for sale, as manure for the neighboring lands.

There is an obvious objection to, or ground to doubt, the effects imputed to decomposing filth as causing disease, in this well known fact, that in spite of this and all other sources of disease, our towns are more free from autumnal sickness, (the effects of *malaria*) than much of the neighboring and surrounding country; and that the towns have all become more healthy, as they have increased in age and population. These general facts are admitted to be correct, but the inference from them is denied, on the following grounds.

In the first place—bad as may be the effects of the gaseous or aeriform products of animal putrefaction, it is well known that they are much less productive of malaria than are those of vegetable putrefaction. This I believe is a well established and universally received medical fact. And as our *police of health* in the country is at least as bad as in the towns, (though the nuisances are of a different character,) it may well happen, that the vast quantity of decomposing vegetable matter in the woods and in the fields, where there is no calcareous ingredient in the soil to combine with products of decomposition, and to fix them there—together with the pestilential effluvia from the numerous mill ponds, which more or less affect injuriously half the places of residence in lower and middle Virginia—may produce more malaria and disease, than the decomposition of annual filth in the towns. Besides, there are counteracting agencies always operating to lessen the ill effects of decomposition of filth in towns, though such operation is neither intended, nor understood, by those who profit by it. From various sources, the calcareous earth in towns is always accumulating. The ashes of all the wood consumed as fuel, furnish a large and rich supply—and though these are sometimes conveyed away for manure, still the far greater part is scattered about the town. Coal ashes, in a much less degree as to strength, also add to the stock. The waste of lime, and the old cement of buildings repaired or demolished, all furnish calcareous matter, and all, though without its being designed, are in time spread every where. But the burning of a town, or a large portion of it, as stated in the first part of these papers, furnishes the great supply of calcareous matter—enough indeed to give a very heavy dressing to the whole space burnt over, and much more—and to serve to combine with all the animal matter for a number of years, and to give permanently to the soil of the town, that valuable quality which is entirely wanting in that of the surrounding poor country.

There is one still more foul abomination in our present system, which has grown out of the want of proper public accommodations, and the extreme difficulty (not to say indecency) of daily removals of uncombined and unchanged excrements from private houses. The practice alluded to belongs to the most crowded parts of cities, and has proceeded from them, and from Europe, to this country, where as yet it is but little used. Where space is very costly, deep pits are dug beneath privies, from which the contents are not removed for years together, and more probably *never*. They do not become *full* (or at least very slowly,) and thereby *compel* their being emptied—because after a certain bulk of the highly putrescent matter has been accumulated, the waste by decomposition goes on nearly or quite as fast as the increase from the additions of material. If quicklime is added, this decomposition is hastened, and a different, though but little offensive odor is substituted. But whether these depositories are cleaned out at long intervals, or not, there can be no question but that nineteen-twentieths of the whole mass goes off by decomposition, and is mixed with the atmosphere; and however diluted, or however altered by mixture, helps to form the air breathed by the inhabitants of towns—who are too delicate, and too fastidious, to have all such nuisances prevented by proper, general and public regulations. We have not yet been enough crowded in our towns for the last mentioned practice to have gone to much extent. But as it is the result of (supposed) necessity, it will increase with the growth of the towns; and as such receptacles will be of course concealed as much as possible from observation, their existence will not be known, nor the extent of the evil estimated, and scarcely even suspected.

In France, in past times, when there was neither the refinement of manners, nor the knowledge of the evils produced, that now would forbid the introduction of such a usage, large and deep covered pits, or vaults, to privies, were common in the smaller towns, and which were by no means kept for private use. In such public places (*fosses d'aisance*) the rapid accumulation made it absolutely necessary to remove the matter sometimes, though very rarely; and a description of the state of things at such times, and the effects produced on health, and even the necessity of guarding against them, will serve to show to our citizens, who have never thought of any evils except that of offensiveness to the senses and to decency, that effluvia, always hurtful and sometimes deadly in effect, are actually evolved. And it should be borne in mind, that the same effluvia must be extricated from similar accumulations also, though the effects are diminished according to the smaller amount and more gradual extrication, or more diluted state of the doses inhaled by the surrounding population.

There is another and still more disgusting, and still more evident effect of accumulations of putrescent animal matters in towns, presented in the infiltration of the fluid parts though pervious strata of earth, and the consequent admixture with the water supplying springs and wells. This part of the subject may be resumed, and treated more at length in a future number of these observations, so as not now to interrupt the consideration of the effects of gaseous or aeriform products of accumulations of putrefying animal matters.

No. III.

THE POLICE OF FILTH, IN TOWNS, CONTINUED. FACTS AND OPINIONS ON THE SUBJECT FROM FRENCH AUTHORITIES.

The following article, which I have translated from Rozier's "*Cours Complet d' Agriculture.*" *etc.* (Paris edition, of 1815,) will serve to present in a stronger point of view the dangers to health caused by accumulations of fœcal matters in towns. The reader may be instructed by its facts and reasoning, as to the importance of the subject to health—and he will also be amused by the display of technical terms, and form of scientific arrangement and classification, applied to such a subject. But this manner of the French author, nevertheless, furnishes additional evidence that the subject has been long studied in his country, and therefore, that the results obtained, and the opinions derived, are the more entitled to respect.

It is proper to premise, that in France, and elsewhere in Europe, the poorer cultivators and inhabitants of the country do not generally have separate and isolated dwellings, as in the United States, but are collected in villages, or hamlets which are surrounded by the fields which the inhabitants cultivate,

and the pastures on which their cattle graze. This state of things, which was originally required for mutual security, and which old habits still retain in use, has no existence in the United States, except among some cultivators of French descent, on the Mississippi, and the laborers in cotton or other large factories. It is to villages, and perhaps crowded villages, that the author refers, in the following piece, when speaking of the "*country*;" and the "*fosses d'aisance*" of which he treats were common to the use of many persons. The injurious effects described, like the circumstances which produced them, are also (as yet) without parallel in this country. But we have no right thence to suppose that our different habits lead to no danger, or to much less evil than the deep and large vaulted "*fosses d'aisance.*" In the latter, as described in the French account, the accumulation of fœcal matter, and the concentration of the energy of its poisonous products, serve to exhibit its worst virulence bearing upon a small space, and upon the very few persons most exposed by nearness, or actual contact. But if the matter was diffused, as by the practices and habits of our population, the same kind of fermentation would proceed, the same products be exhaled, and as much deadly aeriform poison be evolved and breathed, but rendered scarcely sensible in effect, by being widely diffused over much space, greatly diluted, and thus divided among a much greater number of persons.

[*Translation.*]

Fosse d'Aisance. This subject relates directly to agriculture, as furnishing one of the most excellent manures, at the same time that it interests the health, and even the life of the cultivator; for, how many casualties occur in the country [villages] by the emptying of these pits, for want of knowing the means of preventing them!

We shall not speak of their construction, which makes an essential part of the art of building; but we are going to enter upon some details in regard to the various substances which compose the matter, or contents, of the pits. We have not to fear exciting the *disgust* of the cultivator; accustomed as he is to excrementitious matters, he will consent that we shall instruct him concerning that of which he is less informed.

These substances are distinguished by the names of the *crust* (*croute*) *hecate*, *vanne*, and *scrapings* (*gratin*) The *crust* has often sufficient thickness and firmness to sustain the weight of the laborers walking on its surface! The *hecate* is the pyramidal heaps. The *vanne*, is the liquid part, usually of a green color, and is corrupted (*infecte.*) The *scrapings* are the parts adhering to the walls, and to the bottom of the pit.

The crust is sometimes pushed up (from the mass below) by a sufficiently voluminous layer of mephitic gas, so as to induce the belief that the pit is full. In this case, the emptying of the pit may be put off to a future time, by merely opening into, and facilitating the escape of the intermediary layer of gas, and thereby lowering the crust.

We proceed now to the accidents occasioned by the emptying, and often even by the mere opening of a (covered) pit. Frequent as such accidents are in the cities, they are much more so in the country [villages,] in consequence of the little experience of this operation. The two only means of preventing them are, quicklime and fire.

This article, in Rozier, occupies much extent,* and contains a *Memoire sur les Fosses d'Aisance*, which I had prepared when I was engaged in investigating the subject, in concert with Laborie and M. Parmentier. The employment of quick lime consists in slaking it to put it in a state of powder, or to make a fluid by mixing it with very little water, and to introduce it into the contents of the pit, by stirring it with a pole; then the mephitic exhalations are destroyed or confined. The proportion of lime required, depends on the mass of matters, and the cessation of the existence of mephitic gas, of which we may be assured by letting down a lighted candle to the surface. If the flame is extinguished, or even burns dimly, there is still mephitic air undecomposed, and more quick lime is to be added.

As to fire, there are many modes of applying it. Either a chafing-dish of burning coals is placed in the pit, and left there to burn out completely, or dry straw is lighted on it. It is useful to make (in the walls) air holes; they may serve for the escape of the lightest gases; but how little do they draw, when the atmosphere weighs on their orifices! For it is of the *fosse d'aisance* as of the barometer—or rather it is one of the most faithful of barometers. The weather will continue clear, as long as, from the holes over the pit, there arises *ammonia*, that purgent odor so sensible to the eyes, and to the smell.

The crust is sometimes firm enough, I have said, for the workmen, without inconvenience, to walk upon its surface. This surface is commonly covered with sulphur, as is also often the vault (or arched covering) of the pit to which the sulphur sublimes, and fixes on. Sulphur is a very abundant product of the fermentation of animal substances: under those circumstances it is formed in the humid mode. When charged with the excavation of the half moon of the gate of Saint-Antoine, which, from a very remote period, had been made a common receptacle of filth, (*voirie,*) I was struck with the enormous quantity of sulphur with which the earth was impregnated. It is to this sulphur, or rather to the sulphuretted hydrogen gas, which is formed in the pits, and is the most mephitic of known gases, that are principally owing the accidents produced by the operation of emptying these receptacles.—M. Dupuytrein has thrown much light upon the different gases held by the matter of the *fosse d'aisance.* At the time when I was occupied in this investigation, Lavoisier, the Abbe Fontanes, whom I had invited to repeat or examine the experiments, could not pronounce upon diversity of eminent gases; of which one kind, the *mitte*, [as vulgarly termed,] which limits the effects to causing to the workman a momentary blindness, seeming to affect merely the system of optic nerves—whilst the other occasions the painter's colic, and conducts its victim to the state of paralysis, to asphyxia, and finally to death. The experiments of M. Dupuytrein, though interesting in their relation to science, have changed nothing in the preservative means which we have stated, to wit, quicklime and fire, as the destructive or ventilating agents. It is to the negligence of these means, I repeat, to which is to be attributed the accidents that occur from time to time.

Lime is the most energetic disinfecting agent. Throw it into the putrid fluid (*vanne*) of a *fosse*, and it becomes instantly inodorous; it fixes (*enchaine.*) it decomposes all the mephitic gases. It is thus, that when thrown into a *fosse*, it suspends the extrication of infectious emanations, at the same time that it arrests the tumescence and fermentation of the matter, which is lowered, and the space of time before the emptying becomes absolutely necessary, is thereby prolonged. It is recommended by many to throw snow into the pits, on the pretence of its economizing the emptying, because, as it is said, the snow consumes the excrementitious matter. If the soil in which a pit is sunk is so pervious as to permit the infiltration of the liquid portion of its contents, then the adding of snow (that is, water,) by giving more fluidity, will facilitate the imbibing by the soil. But if the pit is well and solidly constructed, and loses nothing by filtration, the addition of snow does but augment the mass, and hasten the time of emptying. It is thus that people assert every thing, because they believe every thing—and ignorance loves best that which is the most improbable.

There is a phenomenon which it is suitable to mention in this article, as sometimes causing accidents. It often happens that children throw lighted papers down through the orifices of the seats over the *fosses.* When our *barometer-fosse*, in place of ammonia, exhales sulphuretted hydrogen, the gas, the most combustible of all, takes fire, with explosion; and if a sufficient quantity of sulphur is formed upon the crust, or upon the arched roof, the bursting of the roof of the pit may be the result. This gas of *fosses* is also met with in mines, and takes fire there from the lamps of the workmen. But in the mines, the explosion is seldom attended with injury, because there is communication by galleries, or by the cealing, with the atmosphere: the workman throws himself flat on the floor, and it is as much if his hair is singed by the meteor-like fire, which burns but little, and very rapidly.

But why should *fosses* be permitted to exist, when their contents occasion so many accidents. Their cleaning out is the profession the most abject and most disgusting; and it is difficult to conceive how men can devote themselves to it voluntarily. Certainly, humanity would not permit that a legislator should ascribe such a punishment on the penal code. The workmen employed in this wretched business, raises the stone

* It is the writer of this article, Cadet de Vaux, who speaks, and probably in reference to the previous edition of Rozier's *Cours Complet.*—Ed. Far. Reg.

that serves to close the entrance to the vault, and often there immediately exhales a *mofette*, or gas, dangerous or mortal.—Another *mofette* is found under the crust into which he cuts, which escapes at the first stroke of the hoe. He puts down his lan..., and descends into this gulf; he makes the reign of the cross, asking the protection of Heaven. He draws out the putrid fluid; at the end of some minutes, it is the *milte** which reaches him; he is struck with blindness; he is drawn out, if not blind, at least deprived of sight for more or less time. Or perhaps it is the *plomb*;* his knees fail, he staggers, and has a universal trembling, cold siezes him, he breathes with difficulty, and he is conducted to the hospital to await the coming of convulsions, violent colic, and other pains, and paralysis which often becomes permanent. Another workman succeeds the first; he has a rope fastened around his breast and beneath his arms, while the other end is held by one of his comrads above, who follows him with his eye, and is ready to draw him up, if he plunges into the *vanne*, or falls extended upon the more solid mass, struck by asphyxia, (fainting) if not by death. It was doubtless, the existence of *fosses d'aisance* among the Greeks, which has furnished grounds for the fable of the mouths of Styx and the Cocytus. The noted Grotto del Cane (of Italy,) does nothing but produce asphyxia—that is to deprive of the signs of life, which are restored immediately by the subject being plunged in the water of the neighboring lake, Agnano. But it is not the same with asphyxia occesioned by the emptying of *fosses d'aisance*. The sulphuretted hydrogen gas is quite another thing to the carbonic acid gas.

The numerous accidents occasioned by the emptying of *fosses d'aisance* were among the first objects which exercised my zeal in the career of public utility to which I have consecrated my labors. In consequence, I enlisted the solicitude of government, and proposed to it to unite myself with Laborie and M. Parmentier, for continuing the researches which were alike interesting to humanity, to science, and to agriculture. Chemistry had analyzed the excrementitious matters; it had commenced to analyze the gases; but it had not penetrated into the interior of the *fosses d'aisance*, the only laboratory in which to examine the phenomena which the most putrescent substance presents.—From these researches, it has resulted, that no workman who will take the precaution which we have proposed in the use of quicklime, and of fire, ought to perish in cleaning out *fosses* or wells; or in the excavation of mephitic soils, to which I have applied, with no less efficacy, these cautionary means against death and asphyxia.

Soft stone (*pierre tendre*) should be used for the construction of *fosses d'aisance*; hard stone has not sufficient resistance.—The gases the most active, the most solvent, exhaling from the excrementious matters which are undergoing an uninterupted process of fermentation, tend to soften the stone, which they penetrate to a great thickness. I have seen walls of extreme solidity, of which the surface might be crumbled by the fingers—not only the wall of the *fosses*, but those of the body of the [upper] building forming the privies; whilst the soft stone permits the penetration of the viscous fluid, which thus forms a coating that prevents infiltration.

The circular form is so much the more necessary, as I have seen [square] *fosses* of which the cleaning caused no acciden's to the moment when, the centre being emptied, the corners were commenced upon. Nothing is more dangerous than to meet with bunches of straw or hay, which have been thrown into the pit; it is rare that they do not conceal a *mofette*, or mephitic gas. In general, all foreign substances add much to the dangers of emptying; it is thus that soap waters [which have been used for washing,] may cause a *fosse* to be fatal to the workmen engaged in emptying it.

* * * * *

I will observe that pits for farm-yard dung, ought to be considered as true *fosses d'aisance*, in regard to their putrid fluid part, the mephitic gas which they evolve, and consequently, of the accidents, which are of similar character, which attend the emptying of *fosses* of farm yard dung; so that the means indicated as safe-guards in the one case, suit also for the other.

* * * * *

*These are provincial names given to the different exhalations, (or *mofettes*), as distinguished by their different poisonous effects on these exposed to their greatest power.—Ed.

The following important articles, the first from the London Farmers Magazine, and the other from the New-England Farmer, show conclusively the value of the manure—and no one, we think, will hesitate to say, *that reform* is necessary in the mode of emptying sinks and *disposing of their contents*.

SHORT NOTICE OF A NEW MANURE [MADE OF HUMAN EXCREMENT] MUCH USED IN FRANCE, AND A PROPOSAL FOR ITS INTRODUCTION INTO ENGLAND.

[The following article was found in our latest received British periodical, after the last of the foregoing numbers on "The Police of Health" was in type. This furnishes both newer and more particular evidence of the value of the kind of town manure under consideration.—Ed. Far. Reg.]

Messrs. Payen and Buran, of Paris, having discovered a composition which disinfects human excrement, and all animal substances, and renders them the most fertilizing manure, perfectly free from any obnoxious odor, and in a pulverized state, now manufacture it on a large scale in France, where it is generally used. Some individuals, who have purchased the right and taken out a patent for the invention in the British Empire, purpose manufacturing it in this country; to effect which object they are desirous that a few capitalists, more particularly those who are interested in Agriculture, should join them in raising the small sum which will be required for that purpose.

Allowing amply for all contingencies, it is estimated by competent persons that £6,000 will be required for establishing a manufactory for the above manure; £4,000 of which has been already subscribed, and on which it can be shown, by a moderate calculation, that fifty per cent. annual profit can safely be anticipated.

The following tables show the comparative expense and advantages of the old and new systems of manure, as tried upon two separate arpents (1 acre 2 roods 30 6-13ths perches;) of the same soil in the neighborhood of Paris, by an experienced practical agriculturist, one being manured according to the usual custom of the country, and the other with the improved manure.

OLD SYSTEM.

Expense of Manure.

		£	s.	d.
1st year, twenty cart loads stable dung, at 6 *frs.* (4*s* 9*d* 1-7*d*) a load, which lasts for three years.	120*f.*	4	15	2¾
2nd year	0*f.*	0	0	0
3rd year	0*f.*	0	0	0
	120*f.*	4	15	2¾

Produce of Crops.

1st year seven setiers (30 bush.) of corn, at 20*f.* (15*s* 10 1-2*d*)	140*f.*	5	11	1½
2nd year, five setiers oats 21 bush. 1-8 pk. at 18*f.* (14*s* 3 3-7*d*	90*f.*	3	11	5¼
3rd year, green crops	90*f.*	3	11	5¼
	320*f.*	12	13	11¾

NEW SYSTEM.

Expense of Manure.

1st year, eight hectolitres (15 cwt. 2 qrs. 16lb. at 5*f.* (3*s* 11½ 3-1)	40*f.*	1	11	9
2nd year, do.	40*f.*	1	11	9
3rd do., no manure	0*f.*	0	0	0
	80*f.*	3	3	6

Produce of Crops.

1st year, seven setiers of corn (30 bush.) at 20*f.* (15*s.* 10½*d*)	140*f.*	5	11	1½
2nd year, seven setiers (30 bush.) of do.	140*f.*	5	11	1½
3rd year, five setiers (21 bush. 1-8 pk.) of oats at 18*f.* (14*s* 3 3-7*d*	90*f.*	3	11	5¼
	370*f.*	14	13	7¼

From which it appears that with a reduced expenditure of

40*frs.* (£1 11*s.* 9*d.*) an increase of 50*fcs.* (£1 19*s.* 8*d.*) in the value of the crop was obtained, thereby giving a gross total advantage in three years of 90*frs.* (£3 11*s* 5 1-7*d*) in the new system over the old system, or at the rate of 30 francs (per French urpent,) or 23*s.* per English acre per annum.

We are also informed by the same individual, that the new manure possesses the following desirable qualities, viz: the decided improvement of the land, economy in the conveyance, cleanliness in the crops, freedom from weeds, the production of a stronger ear of corn, and, lastly, that long-sought for desideratum by the farmer, the destruction of the fly.

Extracts from the reports of the different learned societies and the public journals in France, which have expressed the highest opinion of this successful discovery, for which the inventor received from the Academy of Sciences in France on the 8th September, 1834, a prize of 8,000 francs:—

Agricultural Society of the Seine and L'Oise.

Extracts from remarks on differents sorts of manure by M. de Cauville. This society has voted the insertion of this paper amongst its memoirs, with the hope by this means of inducing agriculturalists to repeat the experiments of Decauville.

"Amongst manures there are several new ones; but many farmers, not knowing their value, hesitated to use them, and thus deprive themselves of valuable resources. Having this year tried some experiments upon several of them, I have now the honor to communicate to you the result.

"In a piece of clayey and chalky ground of the extent of thirteen French acres (nearly eleven English) which did not possess much fertility, I had some barely sown after two ploughings, and at the same time, I spread the following manures. On the first part the blood manure made by Mr. Derosne; on the second, the animalized black (made by Messrs. Payen and Buran;) on the third, the disinfected soil [human excrements] of Messrs Payen and Buran; on the fourth, the Laine manure; on the fifth, the Boulogne soil.

"In order to ascertain the duration of the different manures, I sowed some lucerne amongst the barley, and the following crops served to show those which act the longest on the soil; three farmers were chosen as judges, one a member of this society, who were ignorant of the manure which had been employed, and the following is their decision. All the manures produced some effect, compared with that part which had no manure, the most efficacious was the *disinfected soil*; the second, the animalized black; the third, the blood manure; the fourth, the soil of Boulogne; the fifth, the Laine manure."

Extract from a report of Mr. C. Brianne, director of the model farm of Grignon, 20th September, 1834:—

"In a course of experiments, I manured about one hundred acres of rye and wheat with animalized black in the department de l' Aube, at forty leagues from Grignon; although the season was not favorable, one can inquire of the people of the country, if they have ever seen a finer crop in the world."

Extract from a report made to the Horticultural Society of Paris, by the Viscount Debonnaire de Gif.

"The result of my examination of the effect produced by this new manure in horticultural proceedings is this: that this pulverised compound appears to hasten the development of vegetables, and consequently accelerates their fructification; that it does not possess the bad quality of containing the seeds of weeds; that it improves by degrees the soil, and produces more abundant crops; and it can, consequently, be applied to garden plants, which exhaust the soil, nor does it impart any disagreeable flavor to fruits or vegetables. It likewise adds considerably to the growth and beauty of the dahlia, and other bulbous roots. The facility of its conveyance is also a great recommendation."

Several attestations of persons, who have witnessed the disinfecting process both in France and England, are in possession of the individuals who propose to introduce this manure into England, and may be seen at T. G. Margary's, Esq., solicitor to the patentees, Quality-court, Chancery-lane, from whom any further information can be obtained.

N. B. Many preparations for night soil have been used for some years, both in England and France, but none of them are allowed to possess the superior qualities of the one which it is now proposed to offer to the British public.

From the New-England Farmer.

NIGHT SOIL

Is not alone distinguished from the ordure of all animals by the extreme fetidness of its smell, but it is also known to be a stronger and hotter kind, and probably differs in its own qualities in proportion to the sort of provision from which it is obtained; as there is every reason to suppose that the excrement arising out of animal food, is of a more active nature than that which is the produce of vegetable diet. In all those places where the real value of this feculent matter is duly appreciated, and its preparation well understood, the aversion which its use excites, is surmounted, and it is then preferred to all other manure.

The repugnace to this manure, proceeds from an idea that this manure communicates an unpleasant flavor to plants grown in the land upon which it has been used; and it has been also thought to have a bad effect upon the soil. Both of these objections are, however, groundless, when due care is applied to its management. Instances are indeed said to have occurred, in which horses have refused the hay made from grass which had been manured with night soil. But if credit is to be attached to the assertion, it must have been produced by its having been spread in a fresh state, and upon grass of a very forward growth. In proof of this, is an instance mentioned in the Norfolk Repert, of a field newly laid down to grass, every part of which proved very poor, except 2 acres, on which four waggon loads of night soil were spread directly, without being mixed with any other manure. The field was fed off, and the effect of the night soil, is said to have been so great, that while the rest of the field never seemed more than half filled with useful plants, this was thickened surprisingly, and grew most luxuriantly; so much so, that the cattle, neglected the rest of the field, were perpetually feeding there, until by autumn, it was pared down, like a fine green lawn, by the side of a dusky rough and ragged pasture.

In other accounts, it is indeed reported as the most capital manure, of all other sorts, for pasture; two waggon loads securing "a carpet of herbage;" and no bad effect is perceptible on profusion. All unpleasantness of odor may indeed be prevented by the mere use of ashes or lime; and were these thrown upon night soil or into privies which have no communication with sewers, the ashes made in every dwelling house would so completely absorb the fluid, that a solid heap of manure would be produced, that might be afterwards removed without difficulty or offensiveness. It is collected in large quantities in London; and there was, a few years ago, a large manufactory for its preparation, in which it was dried and exposed to the sun on flag-stones, after which it was broken in pieces, and removed under cover, where it was partially mixed with lime and completely reduced to powder. In this state it was packed in barrels, and exported, even to our colonies, where it was used as a top-dressing; but it was chiefly employed by market gardeners, who used to sow it in drills along with their seed; and, judging by the price at which they bought it, there can be no doubt that they found its use to be singularly advantageous.

Its operation has been found quicker and more powerful than farm-yard dung. Farmers who have used both on adjoining land, have observed that the crops are always more exuberant in the first year, where the night soil has been laid, but that little or no difference has been perceptible after. To every load of night soil should be added about four or five times the quantity of pond mud. Young gives the result of two experiments on manures of different kinds and qualities, applied to potatoes, on a poor gravelly loam, in the following proportions per acre:

		1st crop.	2d crop.
No. 1.	No manure,	120 bush.	140 bush.
2.	Night soil, 10 waggon loads, each 96 bushels,	600 do.	640 do.
3.	Night soil, 6 do. do.	650 do.	500 do.
4	do. 2 do. do.	500 do.	300 do.
5.	Bones, 10 do. do.	650 do.	640 do.
6.	do. 6 do. do.	640 do.	560 do.
7.	do. 2 do. do.	560 do.	240 do.
8.	Hog-dung 60 one horse-cart load,	480 do.	300 do.

9.	do.	30	do.	do.	480	do.	160	do.
10.	Yard	comp. 60	do.	do.	300	do.	240	do.
11.	do.	120	do.	do.	480	do.	300	do.
12.	do.	30	do.	do.	140	do.	140	do.

[British Husbandry, vol. 1st, p. 267.]

KREOSOTE.—For several years past, the dry distillation of organic substances has engaged the attention and exercised the interest of European chemists. This process consists in subjecting them, when deprived of moisture, to a high temperature. By this means the elementary principles of the body are acted on; they enter into new combinations, so that the products are the result of its destruction or decomposition by heat.

In 1830, M. Reichenbach, a chemist of Blansko, while engaged in the investigation of this curious and interesting subject, discovered kreosote and five other substances, all of more or less value in medicine and the arts, and all products of the destructive distillation of vegetable matter. Kreosote, however, is by far the most important of all these products, both on account of its chemical properties and its numerous practical applications. It was first discovered by Reichenbach in impure pyroligneous acid, and afterwards in all the tars. Its name is derived from the Greek *creas*, flesh, *sozo* I save.

It is an oily, transparent fluid, and when pure, perfectly colorless; its odor is very similar to that imparted to meat by wood smoke, varying, however, according to the species of tar used in its manufacture. It is readily combustible in the atmosphere and burns with much smoke.

Kreosote has been successfully applied to the preservation of fresh meats, and hence may become an important article in domestic economy. The meats intended to be preserved should be immersed in a solution of one part of kreosote in a hundred of water. Here they should remain from twelve to forty-eight hours, according to their size, when they are to be dried, either in the sun or before the fire, and afterwards set aside for six or eight days, at the end of which period they will be found to have acquired the consistence, appearance, smell and taste of the finest smoked meat.

Kreosote is probably the most efficient substance yet discovered for the preservation of dead bodies of whatever kind.—Birds poisoned with it resist putrefaction for a great length of time, and the bodies of animals may be *mumified*, so as to keep them sound for an indefinite period, by immersing them in a solution of kreosote in water, or by injecting a mixture containing kreosote into the blood vessels.

And indeed from recent investigations, it has been ascertained, beyond a doubt, that the tarry and resinous substances from which kreosote is chiefly manufactured, were the very articles used by the ancient Egyptians in the process of embalming, and by means of which their mummies have been handed down to after ages—mementos of the science and skill of that gifted people, as imperishable and as wonderful as the pyramids themselves.

It is stated in the Asiatic Journal for February, 1836, that Lieut. Col. M. C. Bognol presented to the Royal Asiatic Society a human hand and a piece of beef, preserved by means of a preparation of vegetable tar found on the borders of the Red Sea, in the vicinity of Mocha. The Bedouin Arabs with whom he conversed on this subject, were of the opinion that this vegetable tar, called in their language Katran, was the article chiefly depended on by the ancient Egyptians in the proce s of embalming. They also believed that large quantities of camphor, myrrh, aloes and frankincense were used, but these are evidently not essential, as the tar alone penetrates and discolors the bone. The only use now made of this tar is as a plaster or ointment for the sore backs of horses and camels, rot in sheep, and lastly, in the preparation of the heads of criminals sent from the distant provinces to the seat of government. The tar is obtained from the branches of a small tree or shrub, which is found in most parts of Syria or Arabia Felix.

The process by which kreosote is procured is complex and difficult: that of Reichenbach has been simplified and improved by other chemists. The following is the mode recommended in the "*Annales de Chimie et de Physique*" of July, 1835, by M. Koene. The tar derived from pit coal, is distilled in a retort provided with a long tube, having a large mouth. Under this is placed a receiver. The oil which comes over first swims on water; and it is necessary to remove from time to time the products of the distillation, till an oil is obtained which sinks in water. When this is found to be the case, the product is collected. The heavy oil obtained during the distillation condenses not only in the receiver, but also in the tube of the retort, where it unites with the naphthaline, forming a buttery substance. By applying a gentle heat, the mass will drop into the receiver. The product is now allowed to remain in a cool place for some hours, after which it is pressed. The expressed naphthaline still contains oil, which is separated by heating it with its own weight of acetic acid till it melts. After allowing it to coo', the crystallized naphtha is pressed; and the acid adhering to the kreosote is saturated with sub-carbonate of potash. The kreosote is now to be shaken for a quarter of an hour with phosphoric acid, the proportions being half an ounce of the acid to twenty ounces of the oil. The mixture ought then to be agitated with its volume of water, and afterwards distilled with a graduated heat, care being taken to separate the oil which floats on its surface. The rectified oil is now to be dissolved in its own volume of a hot solution of caustic potash of the specific gravity 1.120. When it has been allowed to cool for half an hour, the oil upon the surface is again removed, and the heavy oil again treated with the caustic potash, only a fourth part, however, of the solution being this time employed.

On uniting the solutions of potash, a slight excess of diluted phosphoric acid is added, and the free kreosote which floats on the surface is separated. It is again rectified; and the first product which is chiefly water, being rejected, the kreosote comes over quite pure.

Kreosote has now been a sufficient length of time before the public, to enable us to ascertain pretty certainly and accurately its real value as a remedial agent.

Reichenbach, among his first experiments, applied the kreosote to slight *scalds*, in which he found it eminently beneficial. In the treatment of *burns*, it has been employed in France, having, it is said, a remarkable tendency to cause the sores to cicatrize from the circumference to the centre, thus preventing those irregular contractions, which often produce permanent disfigurement.

There is scarcely any disease, in which, according to the concurrent opinion of numerous physicians, kreosote has proved more beneficial than in the *toothache*. It has been employed on the continent for this purpose, ever since its discovery; and for the last two years, it has been prescribed very extensively in Edinburgh, and Dr. Cormack, says, with great success. But unless there be a cavity in the tooth through which the kreosote may be applied to the nurve, as a general rule, no advantage will be derived from it. Where the pain is merely rheumatic, a solution of kreosote and water is highly useful, relieving more speedily, certainly, and for a longer time, than any other remedy.

Various explanations of the operation of kreosote in these cases have been offered, but none seem entirely satisfactory.

1. It has been supposed that the remedy produced its effect by destroying the nerve; to this it has been objected, that if the nerve were destroyed, the pain would never return, whereas, in most cases, the pain returns after a considerable lapse of time.—But the destruction of the nerve, it may be rejoined, may be partial only, sufficient to paralyze its sensibility for a while, but not sufficient to prevent a return of this sensibility.

2. The kreosote may unite chemically with the albumen of the fluids, which are always exuding from a carious tooth, and thus form a crust to protect the nerve from the action of the atmosphere.

3. It may perhaps afford relief by stimulating the loaded vessels of the nerve, causing them to contract and expel the blood with which they are surcharged.

The best method of introducing the kreosote, is by means of a camel's hair pencil. After this has been done, the cavity should be filled with cotton saturated with pure kreosote, care being taken, if possible, to prevent any adhering drops from touching and irritating the adjacent soft parts. If this should happen, however, the pain is but momentary, and is not attended with any serious consequences.

Dr. Elliottson has published several interesting cases of *cutaneous diseases*, in which the kreosote has effected a cure after various other means had been tried in vain. It has also been recommended in *chilblains*. Dr. Halm, of Stuttgart, says, that whether

they are ulcerated or not, he accomplishes a cure in the course of a few days with a solution of kreosote in water. Several cautions should be borne in mind, in the application of kreosote to ulcers. It is of great importance in regulating the strength of the solution, to remember that water dissolves only one-eightieth part of its weight of kreosote. If a small excess of kreosote be present, it will float on the surface in the form of minute globules; and, of course, when the lint or brush is dipped in the solution, these globules will adhere, and thus a much stronger preparation than was intended will be used.

Of all the beneficial effects of kreosote, however, there is probably none more important than its power of *allaying the irritability of the stomach*, and of controlling the most obstinate cases of nausea and vomiting. Its power, in affections of this character (says Dr. Cormack,) exceeds all other known remedies; and Dr. Elliottson says, that he never knew it fail to arrest vomiting, proceding from functional derangement merely. Dr. E. also prescribed it with great advantage in a case of vomiting from arsenic; and several times successfully for "sea-sickness."—[American Journal of the Medical Science.]

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UTICA AND SCHENECTADA RAILROAD COMPANY.

We find in a circular, recently published by the Directors of this Company, the following highly interesting information—at least, to those who take an interest in this description of public improvements. The success of this company and its handsome dividends, will no doubt stimulate our citizens, on the first favorable change of money matters, and price of provisions and labor to finish, with as little delay as possible, the *Oswego and Utica Railroad*, by which, with the Lake, we shall be connected with the *Great Western Railroad*, through Canada, and which makes this route, to the north western Lakes, States and Territories, the shortest, cheapest and most expeditious, and will no doubt receive the patronage of the travelling public. We understand, that Mr. *J. Dana Allen* has completed surveys on several lines from Oswego by Rome, to Utica, for a location of the O. & U. R. R. The distance is less than the present travelled mail route, (seventy five miles.) The grades, curves and distances on direct lines are equal to any R. R. in the United States. This road has an advantage and privilege over the Utica and Schenectada R. R. in its charter, viz: to carry freight. Besides this, it has another advantage over the U. and S. R. R.—the right of choice of routes. The land on the O. and U. R. R. is generally given, while the other Co., by reference to the document above mentioned, paid $288,588 20 for land, and $62,500 to the Mohawk Turnpike Co. —total, $345,088 60! It was limited to the north side of the Mohawk, and had many difficulties to encounter. The expenditures, on account of the construction of this road, to the 31st of May, were $1,708,894 04. The items of which, are first, for right of way, as above, $345,088 60; grading road, $561,787; superstructure, $115,733; engines and cars, $122,771; buildings $71,639; engineering and superintendence, $67,381; incidental expenses, $159,472. The income of the road during the last ten months, from the actual receipts from passengers, is $257,692 20. Add for receipts of the remaining two months, June and July, estimated to be in the aggregate, (the same as the last two months, April and May,) $62,307 71; total for the year, $319,999 91. Assuming the receipts of the road for transporting passengers only, to be the same for any ordinary year hereafter, as the present current year, they will amount to $320,000. Add for carrying the United States Mail, as stipulated in contract with the Post Master General, $20,000, and the gross receipts of this road for an ordinary year, is $340,0000. Deduct for estimated expenses, $140,000, leaving an annual income, to be divided among stockholders, of $200,00. This estimate does not include a cent for future increase of travel on this road, nor does it allow any thing for a contingent decrease, unless $10,000 per annum for contingencies be considered as such allowance. Many persons believe that the increase of travel hereafter will produce enough to renew the perishable part of the road, as often as it will require renewal; if so, the dividend of profits will be greater than the above estimate. The dividend declared for the last six months, is 7 per cent; and if we recollect right, it was for the four months previous—Sept., Oct., Nov., and Dec.—5 per cent. This certainly exhibits a flattering statement for Railroads, and will readily account for the improvement in value of *Railroad Stocks*, both in England and in this country.

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The remarkable property of dissolving copal and other substances used in painting and varnishing, will cause *Caoutchoucine* to become an article of constant employment, and its manufacture profitable to the maker and consumer. It is worthy of the earnest attention of practical and scientific men.

From the London Journal of Arts and Sciences.

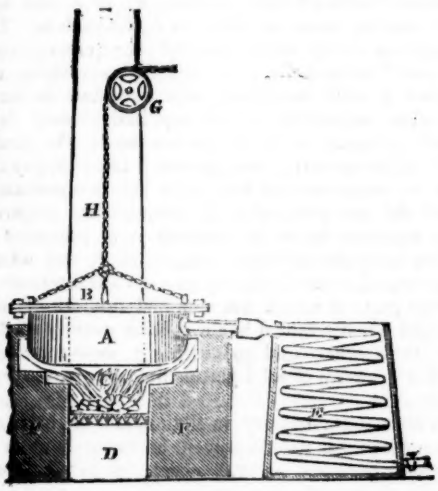
A SOLVENT NOT HITHERTO USED IN THE ARTS.

A patent was granted to William Henry Barnard, of the city of London, for his invention of "a solvent not hitherto used in the arts."—[Sealed 20th August, 1833.]

My invention consists in an essential oil or liquid, which I obtain by the distillation of a well known article of commerce, imported into this country from Para, Valparaiso, Sincapore, and other places, under the title of caoutchouc, or India rubber, which is to be performed in the following manner:

I take a mass of the said caoutchouc, or India rubber, as imported, and having cut it into small lumps, containing about two cubic inches each, (which I prefer,) I throw these lumps into a cast-iron still (which I find adapted to the purpose, and a diagram of which is annexed to, and forms part of, this my specification,) with a worm attached as in the figure :

A, is the still ; B, the cover ground to a metallic fit, and held down with cramps and set screws ; through the cover there is a hole with a plug ground to fit, to admit of a thermometer to take the temperature ; C, the fire-place ; D, Ash-pit , E, the worm-tub; F, the brick work of still ; G, a roller and carriage in connection with a crane, or other means, to raise the cover to take out the residue, and to charge the same ; H, the chain.



I then apply heat to the still in the usual manner, which heat is increased until the thermometer ranges at 600 degrees of Fahrenheit, or thereabout. And as the thermometer ranges progressively upwards to 700 degrees Fahrenheit, a dark colored oil or liquid if distilled over, which I claim as my said invention ; such liquid being a solvent of caoutchouc, and other resinous and oleaginous substances. When the thermometer reaches 600 degrees, or thereabouts, nothing is left in the still but dirt and charcoal.

I have found the operation of distillation to be facilitated by the addition of a portion of this oil, either previous or subsequent to rectification, as hereinafter mentioned, in the proportion of one-third oil to two-thirds caoutchouc, or thereabout.

I afterwards subject the dark colored liquid thus distilled over to the ordinary process of rectification, and thereby obtain fluids, varying in specific gravity, of which the lightest hitherto has not been under .670 taking distilled water at 1,000 ; which fluid I also claim as my said invention.

At each rectification the color of the liquid becomes more bright and transparent, until at the specific gravity of .680, or thereabouts, it is colorless and highly volatile.

In the process of rectification (for the purpose of obtaining a larger product of the oil colorless,) I put about one-third water into the still. In each and every state the liquid is a solvent of caoutchouc, and several resinous and oleaginous substances, and also of other substances, and (such as copal) in combination with every strong alcohol.

Having experienced much diffiulty in removing the dirt which adheres to the bottom of the still, I throw into the still lead and tin in a state of alloy (commonly called solder,) to the dept of about half an inch ; and as this becomes fused, the dirt which lies on the surface of is more easily removed.

Objections having been made to the smell of this liquid, I have found such smell removed by mixing and shaking up the liquid with nitro-muriatic acid, or chlorine, in the proportion of a quarter of a pint of the acid (of the usual commercial strength) to a gallon of the liquid.

And whereas I claim as my invention, the said solvent or liquid when first distilled over, and in each and every stage of its rectification.

The discovery of the chemical solvent, which forms the subject of the patent above described, has excited considerable interest in the philosophic world, not only from its extensive usefulness as a new article of commerce, but also from two very extraordinary characteristics which it is found to possess, viz. : that in a liquid state it has less specific gravity than any other liquid known to chemists, being considerably lighter than sulphuric æther, and in a state of vapor is heavier than the most ponderous of gasses.

The properties of this singular production are yet but in a small degree developed. Dr. Faraday, of the Royal Institution, and Dr. Hue, of St. Bartholomew's Hospital, have both directed their attention to the subject, and have given to the solvent the denomination of *caoutchoucine*, as the distilled product of *caoutchouc*, the elastic gum, known under the common name of India rubber.

This elastic gum is produced by a variety of trees, and is found in all countries at or near the Tropics. The Heavea Caoutchouc (whence the name) grows in South America ; the Urceola Elastica in Sumatra ; the Ficul Elastica and Ficus Indica (Banyan) in various parts of the East Indies ; the Artocarpus Incisa (bread fruit-tree) in the West Indies—we have it also from Africa, but from a variety of trees. Those above enumerated are clearly of totally different descriptions, some growing as climbing plants, some as forest trees. These trees yield the fluid in immense quantities ; it is said, in some instances, as much as two-thirds the weight of the boughs whence it is drawn, and when exhausted by repeated tappings, renew the supply a ter a few months' rest.

Dr. Faraday stated the component parts of a quantity of the fluid he had analysed to be as follows :—

Caoutchouc,	,317.0
Albuminous matter,	19.0
Azotic, bitter coloring matter,	70.0
Wax,	11.3
Soluble substance,	29.0
Water, acid, &c.,	,563.7
	1000.0

Its elements—

Carbon,	6.812	8 proportions.
Hydrogen,	1:000	7 proportions.

There is not a particle of oxygen in the fluid after distillation, when in its most highly-rectified form, and it is capable of preserving potassium. It mixes readily with pure alcohol, but refuses to do so as soon as its specific gravity increases. We do not know at what exact weight a separation takes place, but imagine, from reported experiments, that at a specific gravity of 0.75, it will no longer unite with alcohol. This fluid is obtained at all the intermediate gravities between 0.68 and 0.88. Perhaps if these operations were conducted with very great nicety, and the caoutchouc could be procured, divested of all foreign matter and impurities, water, &c., we should obtain by distillation the precise weight of fluid for the weight of solid operated on.

The speedy evaporation of the caoutchoucine, of course, produces intense cold ; it has been found to reduce the thermometer 10 degrees below zero of Fahrenheit, from 60 degrees above, in a minute and a quarter. At about 10 degrees above zero, a very remarkable concretion takes place resembling snow on the bulb of the thermometer, termed by Dr. Faraday the Bicarburet of Hydrogen ; and it is believed that this is one of the new products alluded to, as discovered by Professor Mitscherlich.

Dr. Ure first exhibited this experiment, which may easily be repeated by tying round the bulb of the thermometer a piece of thin muslin, and blowing upon it with a pair of bellows while the fluid is dropped upon it.

If a current of hydrogen gas be made to pass through the higly rectified liquid, it will carry up with it a considerable portion, and become an illuminating gas of great brilliancy and beauty. This experiment was tried by Dr. Hue at the Hospital laboratory, and the combination of the two vapors remained perfect several days, though the application of greater cold might have caused them to separate.

If the hydrogen gas and the highly rectified fluid could be *cheaply* procured, a most excellent portable light would be the result ; but the expense of both is at present a bar to such a plan.

This new material is a solvent for all the resinous gums, particularly for gum copal, which it dissolves without artificial heat,

they are ulcerated or not, he accomplishes a cure in the course of a few days with a solution of kreosote in water. Several cautions should be borne in mind, in the application of kreosote to ulcers. It is of great importance in regulating the strength of the solution, to remember that water dissolves only one-eightieth part of its weight of kreosote. If a small excess of kreosote be present, it will float on the surface in the form of minute globules; and, of course, when the lint or brush is dipped in the solution, these globules will adhere, and thus a much stronger preparation than was intended will be used.

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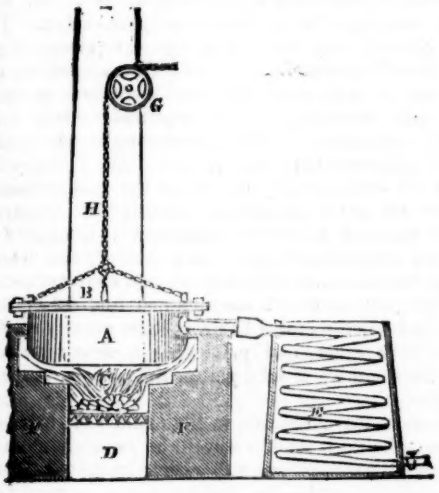
I take a mass of the said caoutchouc, or India rubber, as imported, and having cut it into small lumps, containing about two cubic inches each, (which I prefer,) I throw these lumps into a cast-iron still (which I find adapted to the purpose, and a diagram of which is annexed to, and forms part of, this my specification,) with a worm attached as in the figure :

A, is the still ; B, the cover ground to a metallic fit, and held down with cramps and set screws ; through the cover there is a hole with a plug ground to fit, to admit of a thermometer to take the temperature ; C, the fire-place ; D, Ash-pit , E, the worm-tub; F, the brick work of still ; G, a roller and carriage; in conjunction with a crane, or other means, to raise the cover to take tou the residue, and to charge the same ; H, the chain.



I then apply heat to the still in the usual manner, which heat is increased until the thermometer ranges at 600 degrees of Fahrenheit, or thereabout. And as the thermometer ranges progressively upwards to 600 degrees Fahrenheit, a dark colored oil or liquid if distilled over, which I claim as my said invention ; such liquid being a solvent of caoutchouc, and other resinous and oleaginous substances. When the thermometer reaches 600 degrees, or thereabouts, nothing is left in the still but dirt and charcoal.

I have found the operation of distillation to be facilitated by the addition of a portion of this oil, either previous or subsequent to rectification, as hereinafter mentioned, in the proportion of one-third oil to two-thirds caoutchouc, or thereabout.

I afterwards subject the dark colored liquid thus distilled over o the ordinary process of rectification, and thereby obtain fluids, arying in specific gravity, of which the lightest hitherto has not een under .670 taking distilled water at 1,000 ; which fluid I lso claim as my said invention.

At each rectification the color of the liquid becomes more bright and transparent, until at the specific gravity of .680, or thereabouts, it is colorless and highly volatile.

In the process of rectification (for the purpose of obtaining a larger product of the oil colorless,) I put about one-third water into the still. In each and every state the liquid is a solvent of caoutchouc, and several resinous and oleaginous substances, and also of other substances, and (such as copal) in combination with every strong alcohol.

Having experienced much diffiulty in removing the dirt which adheres to the bottom of the still, I throw into the still lead and tin in a state of alloy (commonly called solder,) to the dept of about half an inch ; and as this becomes fused, the dirt which lies on the surface of is more easily removed.

Objections having been made to the smell of this liquid, I have found such smell removed by mixing and shaking up the liquid with nitro-muriatic acid, or chlorine, in the proportion of a quarter of a pint of the acid (of the usual commercial strength) to a gallon of the liquid.

And whereas I claim as my invention, the said solvent or liquid when first distilled over, and in each and every stage of its rectification.

The discovery of the chemical solvent, which forms the subject of the patent above described, has excited considerable interest in the philosophic world, not only from its extensive usefulness as a new article of commerce, but also from two very extraordinary characteristics which it is found to possess, viz. : that in a liquid state it has less specific gravity than any other liquid known to chemists, being considerably lighter than sulphuric æther, and in a state of vapor is heavier than the most ponderous of gasses.

The properties of this singular production are yet but in a small degree developed. Dr. Faraday, of the Royal Institution, and Dr. Hue, of St. Bartholomew's Hospital, have both directed their attention to the subject, and have given to the solvent the denomination of *caoutchoucine*, as the distilled product of *caoutchouc*, the elastic gum, known under the common name of India rubber.

This elastic gum is produced by a variety of trees, and is found in all countries at or near the Tropics. The Heavea Caoutchouc (whence the name) grows in South America ; the Urceola Elastica in Sumatra ; the Ficul Elastica and Ficus Indica (Banyan) in various parts of the East Indies ; the Artocarpus Incisa (bread fruit-tree) in the West Indies—we have it also from Africa, but from a variety of trees. Those above enumerated are clearly of totally different descriptions, some growing as climbing plants, some as forest trees. These trees yield the fluid in immense quantities ; it is said, in some instances, as much as two-thirds the weight of the boughs whence it is drawn, and when exhausted by repeated tappings, renew the supply a ter a few months' rest.

Dr. Faraday stated the component parts of a quantity of the fluid he had analysed to be as follows :—

Caoutchouc,	,317.0
Albuminous matter,	19.0
Azotic, bitter coloring matter,	70.0
Wax,	11.3
Soluble substance,	29.0
Water, acid, &c.,	,563.7
	1000.0

Its elements—

Carbon,	6.812	8 proportions.
Hydrogen,	1:000	7 proportions.

There is not a particle of oxygen in the fluid after distillation, when in its most highly-rectified form, and it is capable of preserving potassium. It mixes readily with pure alcohol, but refuses to do so as soon as its specific gravity increases. We do not know at what exact weight a separation takes place, but imagine, from reported experiments, that at a specific gravity of 0.75, it will no longer unite with alcohol. This fluid is obtained at all the intermediate gravities between 0.68 and 0.88. Perhaps if these operations were conducted with very great nicety, and the caoutchouc could be procured, divested of all foreign matter and impurities, water, &c., we should obtain by distillation the precise weight of fluid for the weight of solid operated on.

The speedy evaporation of the caoutchoucine, of course, produces intense cold ; it has been found to reduce the thermometer 10 degrees below zero of Fahrenheit, from 60 degrees above, in a minute and a quarter. At about 10 degrees above zero, a very remarkable concretion takes place resembling snow on the bulb of the thermometer, termed by Dr. Faraday the Bicarburet of Hydrogen ; and it is believed that this is one of the new products alluded to, as discovered by Professor Mitscherlich.

Dr. Ure first exhibited this experiment, which may easily be repeated by tying round the bulb of the thermometer a piece of thin muslin, and blowing upon it with a pair of bellows while the fluid is dropped upon it.

If a current of hydrogen gas be made to pass through the higly rectified liquid, it will carry up with it a considerable portion, and become an illuminating gas of great brilliancy and beauty. This experiment was tried by Dr. Hue at the Hospital laboratory, and the combination of the two vapors remained perfect several days, though the application of greater cold might have caused them to separate.

If the hydrogen gas and the highly rectified fluid could be *cheaply* procured, a most excellent portable light would be the result ; but the expense of both is at present a bar to such a plan.

This new material is a solvent for all the resinous gums, particularly for gum copal, which it dissolves without artificial heat,

at the ordinary temperature of the atmosphere; a property possessed by no other solvent known; and hence it is particularly useful for making varnishes in general. It also mixes readily with oils, and will be found to be a valuable and cheap menstruum for liquefying oil paints; and, without in the slightest degree affecting the most delicate colors, will, from its ready evaporation, cause the paint to dry almost instantly.

Cocoa-nut oil, at the common temperature of the atmosphere, always assumes a concrete form; but a portion of this caoutchoucine mixed with it will cause the oil to become fluid, and to retain sufficient fluidity to burn in a common lamp with extraordinary brilliancy.

The importance and singularity of this new material has induced Dr. Faraday to bring it under the notice of the members of the Royal Institution, before whom, in a very interesting lecture, he explained and exhibited many of its properties; and we cannot better close our observations on this subject, than by giving a report of the Doctor's lecture.

The lecturer commenced by describing the process adopted by the patentee for decomposing caoutchouc, and converting it into the new spirit or material denominated caoutchoucine; and observed that those who are not acquainted with the very extensive works erected by Messrs. Enderby and Company, at Greenwich, in whom the patent right is vested, it may be interesting to know, that the preparation and manufacture of the New Zealand flax, for the production of ropes and cordage, has been a principal object of their exertions; and that in prosecuting this manufacture, in which they have spared neither talent nor expense, in order to render the ropes impervious to water, and preserve them from the destructive effects of damp by saturating the fibres in a solution of India rubber, they have been lead to the discovery which formed the chief subject of the lecture.

The great urbanity and freedom with which Messrs Enderby have shown this establishment to their numerous scientific visiters, is a feature so different from the usual calculating secresy of mercantile houses, that we deem it right to notice the circumstance as an omen of a more enlightened age, wherein all shall be willing to impart those seeds of knowledge and of truth, which, while they do not injure the parent tree, become the prolific source of benefit to the public at large.

After exhibiting living specimens of the plant from which the caoutchouc is manufactured, of the sap, which appeared like cream, and of the various forms in which the India rubber is imported, the Doctor alluded to its first introduction into commerce about 70 years ago, when it was sold by Mr. Narine, the mathematical instrument maker, of Cornhill, in cubical pieces of about half an inch square at 3*s.* each, which he recommended as a convenient means of destroying the traces of black lead pencils; whence it derived the name of India rubber, which it still retains.

Such a limited application of caoutchouc continued until within a very few years of the present time; but latterly it has been found available to a multitude of purposes connected with manufactures and the mechanical arts, so much so, that we learn the quantity now imported into this country exceeds the enormous sum of 200 tons per annum.*

Messrs. Enderby have at this time more than 100 tons actually in process of operation at their manufactory, where it is used, when melted with tar, for dressing or paying, as it is called, the ropes and cordage, manufactured by them from the New Zealand flax, and also for the distillation of the caoutchoucine spirit above alluded to, which is coming largely into use for the various purposes stated.

In the production of light about 1 quater of the caoutchoucine dissolves the cocoa-nut oil, and forms an excellent fluid for lamps, one of which (a French Argand) was exhibited on the lecture table, and burnt with peculiar brilliancy. Dr. Faraday then alluded to another application of this spirit to the lamps invented by Mr. Beale, who was present and exhibited their action. This lamp, which has been made the subject of a patent, we shall probably describe in our next.

After briefly adverting to the various important applications of caoutchouc by Messrs. Mac Intosh, Hancock, and others, to articles of domestic and surgical clothing, beautiful specimens of which were exhibited, Dr. Faraday proceeded to the more immediate object of the lecture; and in speaking of the composition of caoutchouc, particularly adverted to the extraordinary quantity of carbon contained in it; namely, 68 of carbon to 10 of hydrogen; forming what is termed a hydro-carbon. The lecturer then placed a very small quantity of the cream-like sap in a capsule over a spirit lamp, by which the caoutchouc was coagulated into a solid substance, and appeared in surprising quantity, more especially as the sap had already deposited an immense quantity of solid caoutchouc in the bottle from which that small quantity was poured. Dr. Faraday then remarked as an extraordinary fact, that the composition of the caoutchouc did not seem altered, although its properties are completely changed when, by melting, it is converted into a viscid matter incapable of again coagulating; and when, by a still higher heat it is distilled over into the spirit termed caoutchoucine (10 parts of which are obtained from 12 of solid caoutchouc, and when rectified has a specific gravity of ,680, being lighter than ether, and presenting a most remarkable instance of the quantity of solid matter that can be suspended in a liquid form.)

What is most extraordinary in the opinion of the Doctor is, that this very liquid is itself a solvent for caoutchouc in a natural state, and deposites it on evaporation unaltered, affording a grand desideratum in the arts, and promising a most abundant source of useful manufactures.

Caoutchoucine is extremely volatile; and yet its vapor is so exceedingly heavy that it may be poured, without the liquor, from one vessel to another like water. A portion of the vapor was poured into an open glass vessel, which, of course, seemed to contain nothing, and yet, when carried towards a lamp, placed at the extremity of the lecture table, and then inverted, or rather the vapor poured out into the flame of the lamp, when it immediately inflamed, and thus most satisfactorily establishing its presence in the open glass vessel; and consequently its weight which had prevented its escape through the vessel had been removed, affording a most satisfactory proof of these facts, and of amusement to the spectators generally.

This being about the proper time for sowing Turnips, we ask for the following article, particular attention.

From the Genesee Farmer.

THE TURNIP CULTURE.

All Brittsh writers agree, that the introduction of the turnip culture into Great Britain, which is of comparative recent date, has contributed more than any other improvement in rural economy to the advancement of agriculture. This culture is of very recent introduction here, and indeed may be said hardly yet to have obtained a footing among us. Yet from the limited experiments which have been made, and from the rapid extension of the culture within the last two years, we have reason to believe our climate and soil are well adapted to the growth of this root; and that although it requires some extra labor to secure the crop for winter and spring use, it may nevertheless be cultivated here to great advantage.

The benefits that result to the farmer from the culture of turnips, as a field crop, are three-fold, viz. 1: They serve to ameliorate the soil, and are excellent as a green crop, to alternate with grain and grass. 2. They afford the most animal food, at a given expense, on a specific measure of land. And 3. They return the greatest quantity of manure to the soil. The turnip like the clover and root crops generally, not only exhaust the soil least, but make up for this exhaustion, in a measure, by dividing and pulverizing the soil, and freeing it from weeds. Although 20 tons an acre may be deemed a fair average crop, the

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* Previous to October, 1832, the duty levied upon elastic gum (as it was called) was 5*d.* per lb., or nearly 50*l.* per ton. Its extensive introduction was thereby entirely precluded. The Legislature have, subsequent to that period, reduced the duty to 1*l.* per ton; hence its increased importation and consumption, which is still greatly increasing.

The supply of this material is inexhaustible; the banks of the river Amazon, as reported by Messrs. Enderby's agents sent out expressly for that purpose, are covered with forests of trees producing it in large quantities, and from Java alone the world might be supplied.

product has in many cases been carried beyond 60 tons. They come in use at a season when succulent food is most in demand; they are eaten by all kinds of farm stock, and constitute, in Britain, the principal material for winter fattening beef and mutton. It will be seen in our March number, that turnip feed is estimated to add one quarter to the dung of the cattle yard. These considerations induce us to add to the facts we have already published, in regard to the turnip culture, such others as may tend to increase their growth among us.

Soil—The *soil best adapted to turnips* is of a dry bottomed, free nature, of some depth and fertility; but, although distinctively termed "turnip land," it yet comprises every species of earth which can be profitably used for any arable purpose, provided it be light, dry and friable: consequently exclusive of heavy clays. It must, however, be understood, that although the common root can be grown on the poorest sands and gravels, yet there are some species which require stronger soils—even rich free loams; and they all demand very careful culture, with an abundant supply of manure. The plant delights in a "cool, temperate and moist climate," and therefore will thrive best in the northern section of the union and in elevated districts.

Species—Although the varieties are numerous, the British writers class them under the heads of white and yellow species, and Swedish. The latter has gained a decided preference, on account of its superior richness and long keeping property. Yet, as affording earlier feed, and as enabling them to preserve the Swedes till late winter and spring, the extensive turnip growers in Europe generally cultivates also the white and yellow. The white turnips,—the white globe is preferred—are fed first; the yellow which are richer, and keep longer than the white, particularly the Aberdeen yellow, are fed next, and the ruta baga last. The roots of the Swedish are at least one third heavier than the other species, and their tops are so much more palatable, that cattle after being fed upon them, will not eat the common kinds, unless impelled by hunger. They are besides more hardy—a large quantity having stood the severe winter of 1835–6, in the open ground, without material injury; though it should be mentioned that they were sown very late, and had not attained their natural growth. They differ in another respect from most other roots—the larger they grow, the greater is their specific weight and nutritive properties. We will add another remark—there varieties of the ruta baga differing greatly in excellence. The true sort has yellowish flesh, a globular shape, and is without a stem, but it is apt to degenerate by the flesh becoming white or by the crown running up into a stem of more or less length. None but the true kind should be employed for seed. Besides, the species requires a richer soil than will grow the other kinds.

Seed and Sowing.—The time of sowing should vary according to the kind and climate. It has been suggested, that if the white and yellow were sown in April or May, as in Britain, they would afford fattening materials for cattle and sheep in September and October. We do not know that the experiment has been tried, but we doubt its success, on account of the heats of our summer being unfavorable to their growth. From several years experience with all the kinds, we recommend for this latitude, from the 20th June to the 1st July for the ruta baga; from the 5th to the 15th July for the yellows and globe, and from the 20th to 30th July for the flat red and green top; the first of these periods for cold soils, and elevated districts and the latter for warmer situations. For table use, where large size is an objection, the Swedes may be sown in the early part of July, and the flat kinds early in August. Half a pound of good seed will give plants enough for an acre, put in with a drill harrow; yet as many seeds will not vegetate, and as the plants are liable to be destroyed by the fly, we generally allow a pound of seed to the acre, and some give double this quantity. The seed should be full bodied and black, the green and yellow often proving abortive.

Culture.—The drill culture is decidedly best for the Swedes, and for the other large varieties, on account of the greater facility of cleaning and stirring the ground with the cultivator among them. The British writers recommend ploughing directly after harvest of the preceding year. This would be a waste of labor and of ground here. Early southern clover may be cut in time to put in even the Swedes here, and our small grain is off the field here generally in time to sow the white and yellow as a second crop upon the stubble. And at all events, if the crop is put on tilled land, the more recent the ploughing and harrowing before sowing the better. If sown broadcast, the ground should be afterwards rolled, and the crop hand hoed and thinned as soon as the plants have well put forth their first rough leaves. The manure, which should always be applied to this crop, is differently applied. If long manure is applied, we would prefer to have it spread and covered with the plough; though if it is applied moist or is immediately after covering saturated with an abundant rain, it may be advantageously applied in the drills. There is a greater propriety in applying short manure, or bone dust, in the drill to this crop, than to almost any other, as the roots gather their food within a limited space. We have seen short muck applied as a top dressing to the common turnip, when sown broadcast, with the best effect. When cultivated in the drill system, with the manure deposited in the drills, the usual distance between the rows is twenty-seven to thirty inches.

In sowing, the drill harrow, of which several kinds are now for sale, is the best implement to use. A man walks briskly forward with one of these before him, propelled like a wheel-barrow.—The drill is made, the seed sown, covered, and by some the ground rolled as he advances. Where this implement cannot be had, a small implement formed like a pepper-box, with holes at one end, and fastened to the end of a walking stick, and followed by a man with a rake to cover the seed, may be substituted. Sow upon the fresh stirred soil.

(To be concluded in our next.)

ITEMS.

Plain Rice Pudding.—Wash and pick some rice;—throw among it some allspice finely powdered, but not much; tie the rice in a cloth, and leave plenty of room for it to swell. Boil it in a quantity of water for an hour or two; when done, eat it with butter and sugar, or milk. Put in a lemon peel if you choose.

Effect of Climate and Cultivation on Vegetables.—The *myrtle tree*, which, with us is a small shrub, grows in Van Dieman's Land to the height of 200 feet, and has a trunk from 30 to 40 feet in circumference. The wood resembles cedar.—The Chinese have an art by which they are able to produce miniature pines, bearing a perfect resemblance to the gigantic specimens of our country, and only five or six inches high.

To Perfume Linen.—Rose leaves dried in the shade, cloves beat to a powder, and mace scraped,; mix them together, and put the composition into little bags.

Extraordinary Lamb.—We are informed by Mr. Roberts, Steward of the Roxborough Almshouse, in this county, that a fleece of *eleven and a quarter pounds* of wool, was taken a few days since, from a Lamb only one year old, belonging to the institution; and that after the fleece had been removed, the animal weighed, alive, *one hundred and forty pounds*. Can Chester, or any other county, beat this?

We regret that the breed was not also communicated.—[Germantown Telegraph.]

Francois Gerard.—Died at Paris, M. Francois Gerard, aged 66—one of the most distinguished painters of the French school. M. Gerard and the late Girodet and Gros were the most distinguished pupils of David.—[Gentleman's Mag.]

At a general meeting of the sto kholders of the Richmond, Fredericksburg and Potomac Railroad Company, held at Richmond last week, Conway Robinson, Esq., was unanimously re-elected President of the Company. Mr. R. has tendered his resignation, but the stockholders "deemed his continuance as President of the Company, important to its best interests," and he was accordingly re-elected.

The Andover and Haverhill Railroad.—The receipts of this road to June 24th, amount to $25,907 00. The road will, in all probability, be finished to Haverhill in the month of August next.

Boston and Providence Railroad.—The following gentlemen have been elected Directors of this Company, viz. : W. W. Woolsey, John F. Loring, J. W. Revere, Josiah Quincy, Jr., B. R. Nichols, C. H. Russel and E. Townsend.—Officers for the ensuing year : W. W. Woolsey, President, John F. Loring, Treasurer, B. R. Nichols, Clerk.

One hundred and sixty-eight passengers left Toledo on Monday morning last in Railroad Cars, with much baggage, merchandise, etc.

Seven steamboats of the largest class arrived here yesterday, six of which came direct from Buffalo, and landed upwards of one thousand passengers. Most of these passengers left yesterday and this morning in the Railroad Cars.—[Toledo, Ohio, Gaz.]

Railroad.—Stock to the amount of $3,500 was subscribed on Monday last by the citizens of this place, for the purpose of constructing and continuing the Railroad from the upper town to its termination at the foot of Lagrange street. It is expected that the work will immediately commence.—[Toledo Gaz.]

Who, in 1830, anticipated the construction of such a road, in so short a time ? Who now can duly estimate the amount ?

Princes Puckler Muskau.—At Crest, in the department of La Drome, in a sudden and melancholy manner, while journeying to meet the Prince at Geneva, the Princes Puckler Muskau. She was taken ill at church, and died in her carriage before she could reach home.

Ludwig Borne.—Ludwig Borne, the well known German writer, recently died at Paris, where he has long resided.

Professor Azelius.—Professor Adam Azelius, the Nestor of scientific men in Sweden, died at Upsal, on the 30th of last January, aged 86 years. He was the last pupil of Linnæus, and was celebrated for his travels in Asia and Africa. His brothers, John and Peter, the first devoted to chemistry, and the second to medicine, are both distinguished for their talents, and have, for nearly half a century, occupied chairs in the University of Upsal.—[Athenæum.]

Cements for Cisterns, &c.—Common rosin 30 pounds, melt it and take off the scum, then add very fine yellow sand 45 lbs., Spanish Brown 2 lbs., mix the whole thoroughly with an iron shovel or other instrument.

The following article from the Long Island Star, should be read by every young man who would be the architect of his own fortune.

The certain Rewards of Industry.—We remember reading some time since, the memoirs of a certain bookseller, named *Lackington*, who lived in London. He was early apprenticed to a shoemaker, and industriously served out his apprenticeship. He pursued this vocation for some time afterwards, working at various places for a bare subsistance, and at length married a wife as poor as himself. They endured sickness and privation. At length Lackington, who had some penchant for bookselling, opened a shop in an obscure part of London, with a few books on divinity, and at the same time wrought at his trade. He made a few pounds, and gaining confidence, entered upon bookselling altogether. He continued to grow prosperous. His store at length became immense, he rode in his coach, and died exactly at the age of three score and ten.

The story of Lackington may be of much use to society.—It resembles in some points that of our countryman Franklin, but still Lackington was a very different man from the American philosopher. He never would have encountered any hazard in the pursuit of science. "His soul proud science never taught to stray." He kept plodding onward, in the accustoned rotine of his business, and leaves his history as an example of the benefits of quietly sticking to the shop.

Of late years with us, as with the olden nations, the pursuits of humble industry seem to have been despised. Many have been led to look to sudden means of obtaining wealth, and have turned from the beaten track of soil, to untrial but more attractive paths. Some have been lost and many bewildered, and those who are able to find their way back to the quiet duties of useful stations, will not soon be likely to violate the rules of prudence, for the sake of trying ambitious experiments.

Even in countries where aristocratic distinctions prevail, great respect is paid to men of substantial character, who can show that by labor, and patience, and self-denial, at the outset, they have at length conquered fortune and acquired the control of wealth. Such individuals, too, feel the comfort of that characteristic of mind which is called *independence*. They have wrought for themselves—they have risen by their own exertion—they sustain themselves upon their own wings. Such independence should be the common exertion.

It is becoming too general with the people of this country, to despise the occupations which require labor. Men would have their children tenth-rate professional men, or *mere nullities*, rather than turn their minds to useful trades. We need not enforce the principle, that it is better to encourage humble desires and more useful aspirations. If the mind, after the body has been disciplined and suited to habits of patient toil, rises to a different and higher range of duties, the humility from which it arose, but adds to the pride and elevation of its soaring.

The great aim of every man should be, to render himself useful ; and every man who has the steadfastness which will enable him to go perseveringly through the labor of a few years, may attain competency almost with the certainty of a mathematical demonstration. In order to follow out the plan, there must be a resistance of all temptation to turn aside, a ready submission to unavoidable disasters, a continual effort to build up and increase—in brief, an unyielding desire and effort to do one's duty to society, in the regular pursuit of a useful vocation.

We think it would be of benefit to many readers if a new edition of the life of Lackington, were published ; for while the moral of his industry is very forcible, the moral of some of his errors is not less so. He suffered from being induced to act the politician—he felt the effects of time and spirit sacrificed at conventicles.

The life of Franklin is one not less than his of *constant industry*, but it is characterized by the further efforts of mind and genius, which, without diverting him from his practical pursuits, enlarged the sphere of his usefulness.

New-York, June 15th, 1837.

THIRD ANNUAL FAIR OF THE MECHANICS' INSTITUTE OF THE CITY OF NEW-YORK.

The *Fair* of the Institute will be held at Niblo's Garden, commencing Monday, September 25th, 1837.

To render this exhibition worthy of the arts and of the ingenuity of the Mechanics of our country, the Managers appointed to conduct the approaching *Fair* have determined to make such liberal arrangements as will insure to the contributors a fair opportunity of exhibiting their productions to the greatest advantage.

The object of Exhibition Fairs is to present to the members of the Institute and their fellow citizens who are engaged in the Mechanic Arts, the means of making their skill and ingenuity known in a way no other facilities afford : the many thousands who visit such exhibitions have a much better opportunity of judging of the merits of the various productions, than they would have by a mere verbal or newspaper description, besides the advantage of seeing brought together, in one vast collection, the products of the skill, ingenuity, and industry of our country.

Premiums of Medals, Diplomas, &c. will be awarded for all worthy or meritorious articles exhibited, either as it respects superior workmanship, machinery wherein the operations are new, interesting or important, where ingenuity is displayed, or taste manifested, and particularly for all new and useful inventions.

You are respectfully requested to send, for competition or exhibition, specimens of the articles you manufacture ; and you may be assured that the strictest impartiality will be observed in the distribution of the Premiums.

Steam power will be provided for the accommodation of those who wish to exhibit Machinery in operation ; an experienced

Superintendant will take charge of this department, and contributors in this branch are particularly invited to send or bring their Machines or models as early as possible, on the 23d September, that the necessary arrangements may be made in relation to shafting, pullies, &c.

The Managers, in conclusion, cannot but express their belief that this Third Fair of the Mechanics' Institute, will exceed in variety and beauty of display, all previous exhibitions of the kind.

GEORGE BRUCE, *Chairm.*
WM. EVERDELL,
C. CROLIUS, JUN.
THOS. EWBANK,
RICHARD BRAGAW,
} *Executive Committee.*

N. B. All articles for competition must be delivered to the Committee at Niblo's Garden, on the 23d September. Those for exhibition *only* will be received any day during the Fair, before 10 o'clock A. M.

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RULES AND REGULATIONS.

1.—The Garden will be opened for the reception of Goods, on Saturday, 23d of September, from 6 o'clock A. M. until 9 o'clock P. M., and it is respectfully urged that all articles intended for competition may be se. t in early in the day. Those articles intended for exhibition *only* will be received any day during the Fair, before the hour of 10 A. M.

2.—The Fair will open for visitors on Monday, 25th Septem- at 10 o'clock A. M., and continue open every day of the exhibition till 10 o'clock P. M.

3.—Competent and impartial Judges will be appointed to examine all articles presented, and premiums will be awarded on all such as shall be declared worthy.

4.—The Committee on Premiums, and all firms or partnerships in which they may be interested, shall be excluded from competition or the award of any premium.

5.—All persons depositing articles, either for competition or exhibition, must attend to have them registered by the Clerk, at which time they will receive a certificate, which will be required of them when the articles are returned.

6.—Proof of origin must be furnished if required, for any specimen offered for Premium.

7.—Depositors will receive a ticket from the Clerk, which will admit them and Ladies during the Exhibition.

8.—Arrangements will be made to exhibit, in operation, all working models that may be deposited—contributions in this branch are invited—a competent person will take charge of all models sent for the above purpose.

9.—The morning of each day, until fifteen minutes before 10 o'clock, shall be appropriated exclusively to the Judges.

10.—Members will receive their tickets of admission by applying at the Institute Rooms, any time in the week previous to and during the exhibition.

11.—All articles offered by Apprentices, will be received, and adjudged as the production of Apprentices—they must furnish a certificate of name, age, with whom, and the time they have served as apprentices.

12.—Articles subject to injury by being handled, should be secured in glass cases—and contributors are requested to have a person to take charge during the hours of exhibition—in the intervals, efficient measures will be taken to protect property.

GENERAL COMMITTEE.

George Bruce,	John Ridley,
John M. Dodd,	Silas B. Simonson,
James J. Mapes,	Thomas F. Peers,
Thomas Ewbank,	Thomas G. Hodgkins,
Wm. Everdell,	George L. Spencer,
C. Crolius, Jr.,	Peter Wemmell,
A. J. Mason,	Richard Bragaw,
Thos. W. Bartholomew,	Ab'm Peitch,
A. Storms,	Wm. H. Hale,
Wm. Ballard,	Wm. J. Mullen,
Henry Cunningham,	James Thomson,
John Harold,	Abner Mills,
Joseph Trench,	L. D. Chapin,
James D. Phyfe,	A. Cammeyer,
John H. Mead,	Hiram Tupper,
John Conroy,	H. B. Robertson,
Jordan L. Mott,	James Thomas,
Samuel Carter,	H. G. Stetson,
George F. Nesbitt,	Ferris Owen,
Henry Worrall,	N. Berry,
W. B. Worrall,	O. Whittelesey,
James B. Cummings,	M. W. Emmons,
James Frost,	J. S. Anderson.

MECHANICS' FAIR.

Notice to Mechanics, Artisans, Manu-facturers, &c.—The undersigned give notice that the first Annual FAIR of the Massachusetts Charitable Mechanics' Association will be held in the city of Boston, in September next, commencing on Monday, the 18th, and continuing at least three days.

The Association have placed at the disposal of the Board of Managers, the sum of Five Thousand Dollars, to enable them to conduct the Fair upon a liberal scale; and they hope to be able to render satisfaction to all who may feel disposed to offer articles for exhibition.

Medals or Diplomas will be awarded to the owners of all articles that may be deem-ed worthy of such distinction; and the Managers intend that the strictest impartiality and fairness shall be observed in the distribution of Premiums.

The Managers, in furtherance of the snbject they have in view, invite contributions, of articles from every department of industry; of choice specimens of American ingenuity and skill; rare and valuable domestic productions, natural or artificial; the delicate and beautiful handiwork of females; useful labor-saving ma, chines, implements of husbandry, and new models of machinery in all their varieties.

Judges will be appointed to examine all articles offered, and the managers will award a gold or silver medal, or a diploma, to all articles that may be pronounced by the judges worthy of reward.

Articles intended for exhibition, must be delivered on or before Wednesday, Septem-ber 13th.

Arrangements will be made to exhibit, *in operation*, any working models that may be offered, which will render the exhibition useful and interesting, and the managers respectfully invite contributions in this branch. A careful and competent superintendent will be appointed to take chare of all models sent for this purpose.

Board of Managers.

Stephen Fairbanks,	Jos. T. Buckingham,
John Rayner,	James Clark,
William Adams,	Henry W. Dutton,
Uriel Crocker,	George Darracott,
Gardner Greenleaf,	Wm. S. Pendleton,
James L. Homer,	Charles A. Wells,
James Barry,	Henry Bailey,
Joseph Tilden,	Jonas Chickering,
Ephraim Harrington,	Henry H. Barton,
Joseph Lewis,	Thomas Boyd,
Walter Frost,	Wm. Uunderwood,
Thomas J. Shelton,	George G. Smith,

John G. Rogers.

P. S. For any further information ad-dress JAMES L. HOMER, Corresponding Secretary, Boston.

Boston, March 24, 1837. m28–ts1

THE MAGAZINE OF HORTICULTURE, BOTANY *and all Useful Discoveries and Improvements in Rural Affairs*,—Edited by C. M. HOVEY, and published Monthly, at $3 per annum, by HOVEY & Co., Cornhill, Boston, and Israel Post, Bowery, New-York.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE,—Is published *semi-monthly*, at No. 30 WALS-ST., *basemant story*, at *Three Dollars* a-year, *in advance*, by D. K. MINOR & GEO. C. SCHAEFFER.

THE CULTIVATOR, J. BUEL, Esq., Editor, is published at Albany, Sixteen pages, once a month, at Fifty Cents a year, *always in advance*.

If any of our citizens, who have encountered and survived the storm, desire a comfortable residence on a productive farm, in a healthy part of the country, we would invite their attention to the advertisement of Mr. John White, in this number. His farms, we have reason to believe, are well worthy of notice.

GREAT BARGAINS.

THE subscriber offers for sale 322 acres of Land, known as the late Cook & Haner Farms, on the beautiful valley, near Manlius Centre, in this county—the limestone creek running through it, on which are three Dwellings, three Barns, good Orchard, 200 acres under good improvement, the stumps out, and well calculated for two farms. The Erie canal in sight, *south* and the *Syracuse and Utica Railroad located and being made* about 20 rods from and parallel with the *north* line, and where is to be the first watering place and station from Syracuse for taking in passengers &c. from Fayetteville, the southern and northern villages. &c. For grain, or grass and grain, for the Sugar or Root business, a better soil cannot be found in any country. When this railroad is completed, fifteen or twenty *minutes* of Syracuse, two hours of Utica; a few hours of all the river cities and New-York; indeed, when the railroad now making from Boston to Albany is completed, within a few hours of all the principal eastern cities. Upon these great thorough fares, and all these advantages, surrounded by flourishing villages, strong competition will always secure on the premises, the highest prices for all its products. This is one of the most splendid farms in the state.

ALSO, for sale 120 acres of Land on the Oswego canal *between* and *immediately* at the junctions of the Seneca and Oneida Rivers, embracing the late widow Eno Plat, Tavern stand, &c. &c. The meeting of these splendid rivers, convenient harbor, the canal—one of the great travelling and commercial thorough fares, to the west, the beauty of the spot, surrounded by a fertile country, indicate this as a favorable spot for a flourishing village, or for a residence, farming, gardening, *profit* and *pleasure;* no situation on the North River can be more desirable—the favorable spot for the stations for all the Packet and Line Boats—for a public house, mercantile establishments, and where every thing raised can be sold at the highest prices.

ALSO, a farm of 160½ acres, bounded on the *west* by the Chittenango river, and on the *north* by the flourishing village of Bridgeport, or "the Rifts," two miles south of the Oneida lake, on the northern and shortest travelled road from Utica to Rochester, cultivated, and the stumps out of nearly a hundred acres, fertile and beautiful land, enough of which may be sold for village lots in a few years to pay for the whole. At the head of navigation, at this village, are quite extensive hydraulic advantages—mills, carding and dressing, tannery, stores, public houses, schools; &c. &c. combining to render this a very desirable farm

ALSO, a valuable Cedar Lot about two and a half miles north of Chittenango.

ALSO, as Agent some very valuable Farms in Onondaga and Madison counties.

The above mentioned Farms will be sold on highly advantageous terms. JOHN WHITE.

Syracuse, Onondaga, Co. New-York., June, 1837. 10—m4

FLOWER SEEDS—DAHLIAS, &c. The present month is a suitable season for sowing annual flower Seeds: the subscriber offers for sale a very extensive variety, including many that are new and beautiful, received from London, Paris, and Amsterdam. Packets of 20 select and showey varieties, inclosed in an envelope, with directions for management, $1; a collection of 500 sorts, $5.

Also, Double Dahlias of the most choice varieties, for which a separate catalogue is furnished, can be packed to carry to any part of the country.

Also, White Italian Mulberry Seed, Chinese, do French Sugar Beet Seed, Mangel Wurzel, Ruta Baga, with a general assortment of seasonable Garden Seeds, growth of the last year.

GEORGE C. THORBURN,
11 John street, near Broadway.

☞ Strangers visiting the city are invited to call in the day time—the Aviary and Picture Gallery will be found worthy of inspection. May—6

CONDITIONS OF THE FARMERS REGISTER.—1. The Farmers' Register is published in monthly numbers, of 64 large octavo pages each, and neatly covered, at $5 a year—payable in advance.

2. Or five *new* subscribers by sending their names and $20 at one time to the editor, will receive their copies for one year, for that sum, or at $4 for each. Purchasers of any 5 volumes (except Vol. I.) at one time in like manner, shall have them for $20.

3. The risk of loss of payments for subscriptions, which have been properly committed to the mail, or to the hands of a Postmaster, is assumed by the editor. *All mail payments must be made in notes or checks of par value in Virginia.*

4. For all copies not received by mail, at the proper post offices, duplicates will be furnished to those subscribers who have complied with their own obligations.

☞ 5. If a subscription is not directed to be discontinued before the first number of the next volume has been published, it will be taken as a continuance for another year. Subscriptions must commence with the beginning of some volume, and will not be taken for less than a year's publication.

☞ 6. The mutual obligations of the publisher and subscriber, for the year, are fully incurred as soon as the first number of the volume is issued: and after that time, no discontinuance of subscription will be permitted. Nor will a subscription be discotinued for any earlier notice, while any thing thereon remains due, unless at the option of the editor.

THE WESTERN AGRICULTURIST, Is published by EDWIN R. SELBY, semi-monthly, at Ravenna, Portage County, Ohio, at One Dollar a year, *in advance.*

☞ Six copies for Five Dollars, and twelve copies for Ten Dollars.

THE RURAL LIBRARY.—A *publication of standard works entire compiled, abridged, and original, on Agriculture, Gardening, and domestic economy,* in *monthly parts,* by SAMUEL FLEET, at his Agricultural Warehouse and Seed Store, 79 Barclay-street, N. Y., at $3 per annum in advance.

THE MAINE FARMER, Is published every Tuesday morning at Two Dollars per annum if paid in advance, $2,50 if payment is delayed beyond the year.

No paper will be discontinued at any time, without payment of all arrearages, and for the volume which shall have then been commenced, unless at the pleasure of the publishers.

All money sent, or letters on business, must be directed, *post paid,* to WM. NOYES. Publisher, Hallowell, Me. E. HOLMS, Esq. Editor.

THE GENESEE FARMER Published by LUTHER TUCKER, a Rochester, Genesee Co., N. Y., Terms. The Farmer is published every Saturday, making an annual volume of 416 papes, to which is added a Title page and Index, at the low price of $2,50, or $2,00 if payment is made at the time of subscribing.

☞ All subscribers must commence with the volume, Jan. 1, or with the half volume, July 1. No subscription taken for less than six months.

☞ The monthly Genesee Farmer is made up of selections from this paper, and published on the first of each month, forming, with Title page and Index, an annual volume of 200 pages, at the low price of Fifty Cents a year, *payable always in advance.*

THE FARMER AND GARDENER, This publication is the *successor* to the late AMERICAN FARMER, and is published at the N. E. corner of Market and Charles-sts., Baltimore, Md., at Five Dollars per annum, *payable in advance.* All subscribers who pay in advance, will be entitled to 50 cents worth of any kind of seeds, which will be delivered, or sent, to their order. E. P. ROBERTS, Esq., Editor, SANDS & NEILSON, Publishers.

THE NEW-ENGLAND FARMER, Edited by T. G. FESSENDEN, and published by JOSEPH BRECK & Co., No. 52 North Market-street, Boston, is published every Wednesday, at $3 per annum, payable at the end of the year—but those who pay within sixty days of the time of subscribing are entitled to a deduction of 50 cents.

☞ No paper will be sent to a distance without payment being made in advance.